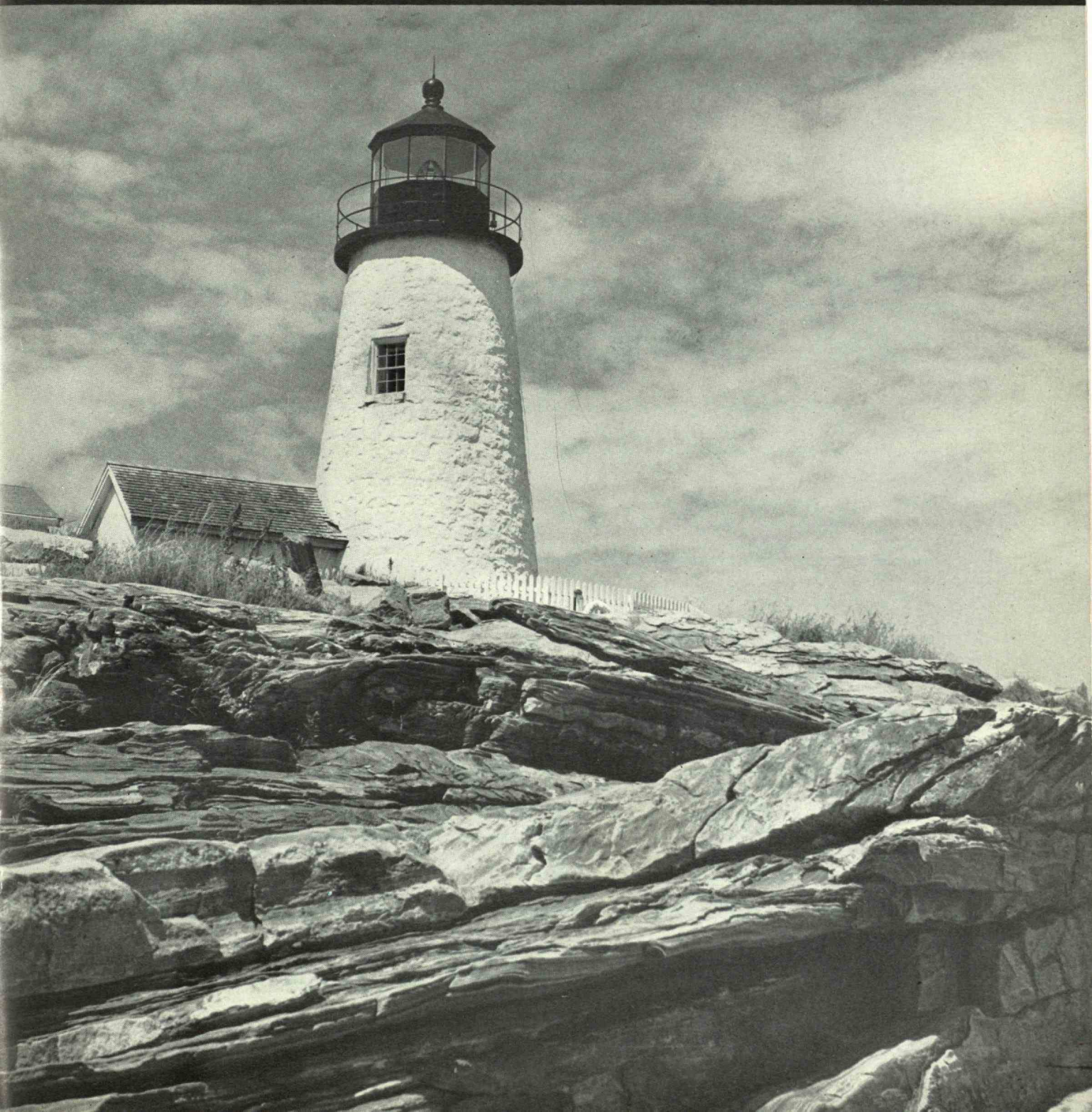


July 1948

# TECHNOLOGY REVIEW

Title Reg. in U. S. Pat. Office



# technology review

Published by MIT

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# FORGINGS FOR SAFETY

ALUMINUM FORGINGS USED  
IN POSTWAR AIRLINERS  
NOW IN PRODUCTION

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# HARVEY

## METAL CORPORATION


HAROLD B. HARVEY '05 • *Engineers & Manufacturers* • SHERRY O'BRIEN '17

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FORGINGS IN ALUMINUM • BRASS • BRONZE • COPPER • MAGNESIUM • MONEL • ALLOYS

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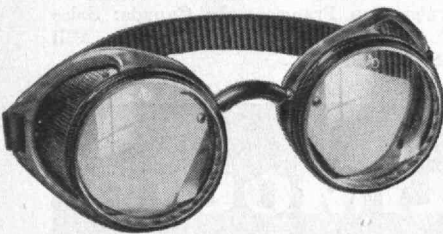


***Here's An Expense  
that Can Be Slashed  
in these  
Days of Rising Costs***



**Industrial Eye Accident Costs Up 78½%\***

\*Since 1939



Have you ever checked the figures on eye accident costs in *your* plant? You may find it good business to do as one manufacturer of electrical equipment did who saved \$14,000 in two years by installing an eye protection program. Or, as was done by a large machinery manufacturer who cut his annual eye accident costs from \$50,000 to \$5,800. 98% of all eye accidents can be prevented for approximately ½ a cent per day per man! Ask your nearest AO Safety Representative to come in and show you how.

**American Optical**

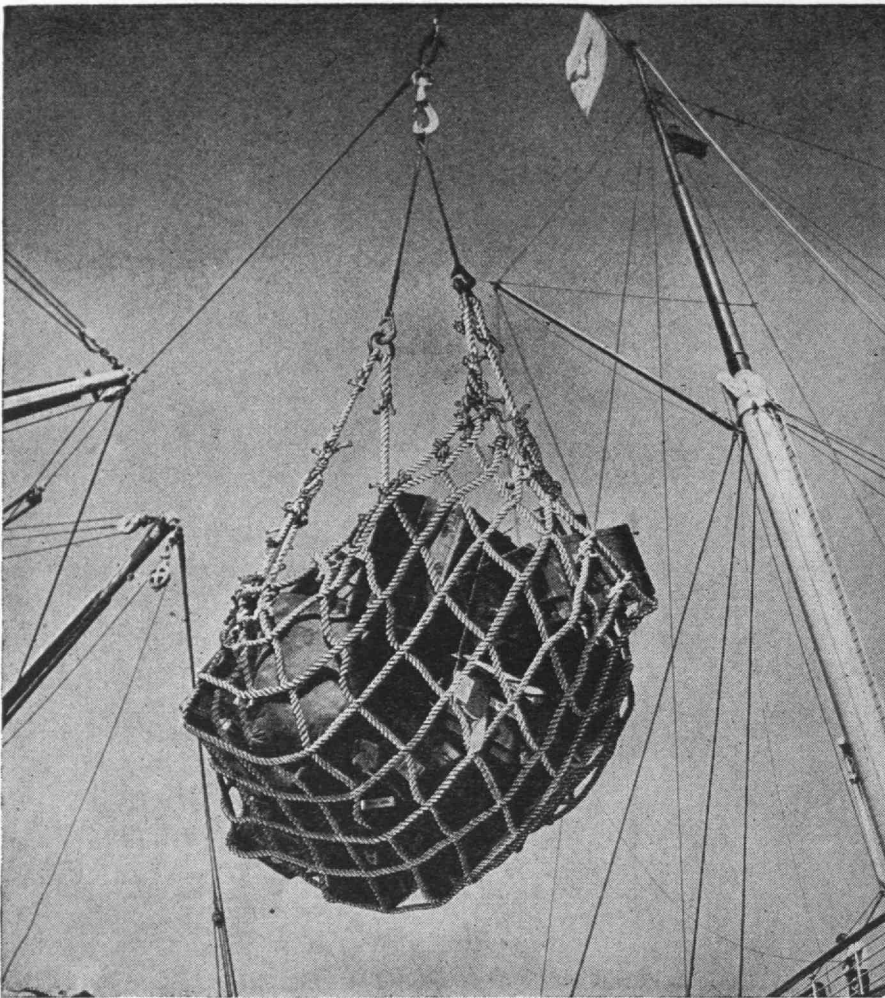


COMPANY

*Safety  
Division*

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES





## 50 FEET FOR PROFIT OR LOSS!

From Cadiz and Calcutta the ships come in, and from Hong Kong, Cape Town, Helsinki, Rio, Bordeaux. Hull down with valuable cargo, they have plowed across thousands of deep sea miles. But the final 50 feet are the most critical of the entire voyage, for the safety of the cargo.

Big booms hoist the loaded rope cargo nets up, and swing them over-side, down to the pier or lighter. Each net-load is packed with tons of sharp-edged crates and cases. A snapped rope may mean the loss of thousands of dollars of cargo!

It takes extremely good rope to stand the pull, friction, bending, and hard handling those nets must face.

Many of the nets safely used to load and unload ships in the ports of the world are made from a famous rope—Plymouth Ship Brand Manila Cargo Net Rope.

Ship Brand Rope is laid to various specifications for every marine purpose, in sizes from 9/16 inch to 12 inch. It is unsurpassed for *durable strength* under tough punishment. It is

the rope men trust to protect human lives and valuable property.

Plymouth Cordage Company, Plymouth, Massachusetts—world's largest makers of rope, tying twine and binder and baler twine.

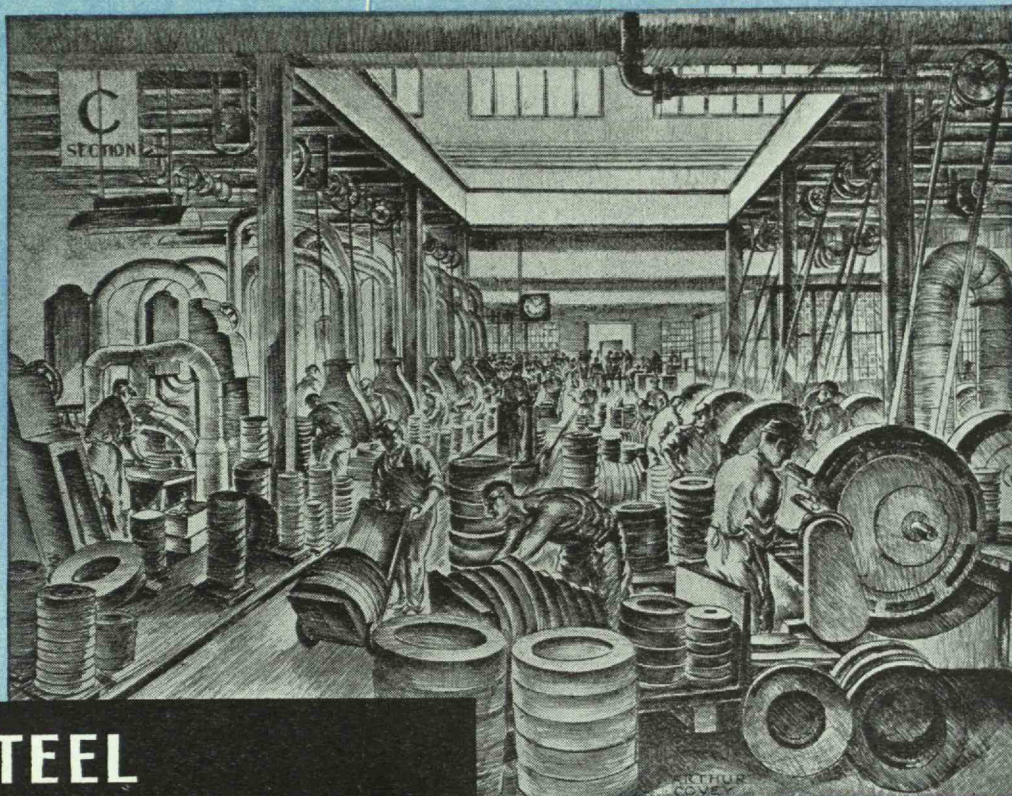
Plymouth Cordage Company, Plymouth, Massachusetts. District Offices: Boston, New York, Chicago, Houston, San Francisco. Warehouse Stocks: New York, Boston, Philadelphia, Baltimore, Houston, Chicago, San Francisco. In Canada: Sales Office—Cordage Distributors, Ltd., Toronto. Mill—Welland, Ontario.

**PLYMOUTH**  
*Cordage Products*



THE ROPE YOU CAN TRUST BECAUSE IT IS ENGINEERED FOR YOUR JOB





## STEEL

## Shapes the GRINDING WHEEL

YOU normally think of the grinding wheel as shaping steel. But in the Norton truing rooms it's just the opposite. There you see grinding wheels being shaped by steel.

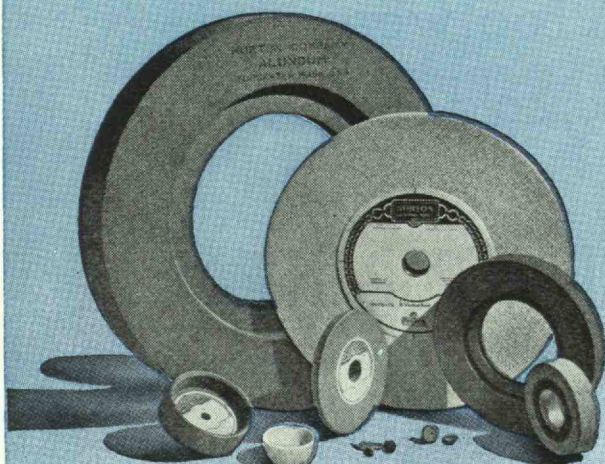
As the glass-hard wheels come from the kilns and ovens they are quickly shaped to the correct size and form by conical steel cutters operating in ingenious machines of Norton design and manufacture.

While this process is used for the majority of wheels, thousands of others are brought to the correct size by means of diamonds or by being ground with other Norton wheels.

Whichever the process, you can be sure that the Norton grinding wheels which you are using were produced from start to finish with the "know-how" of over sixty years' experience—a "know-how" that gives Norton wheels outstanding cost-cutting ability.

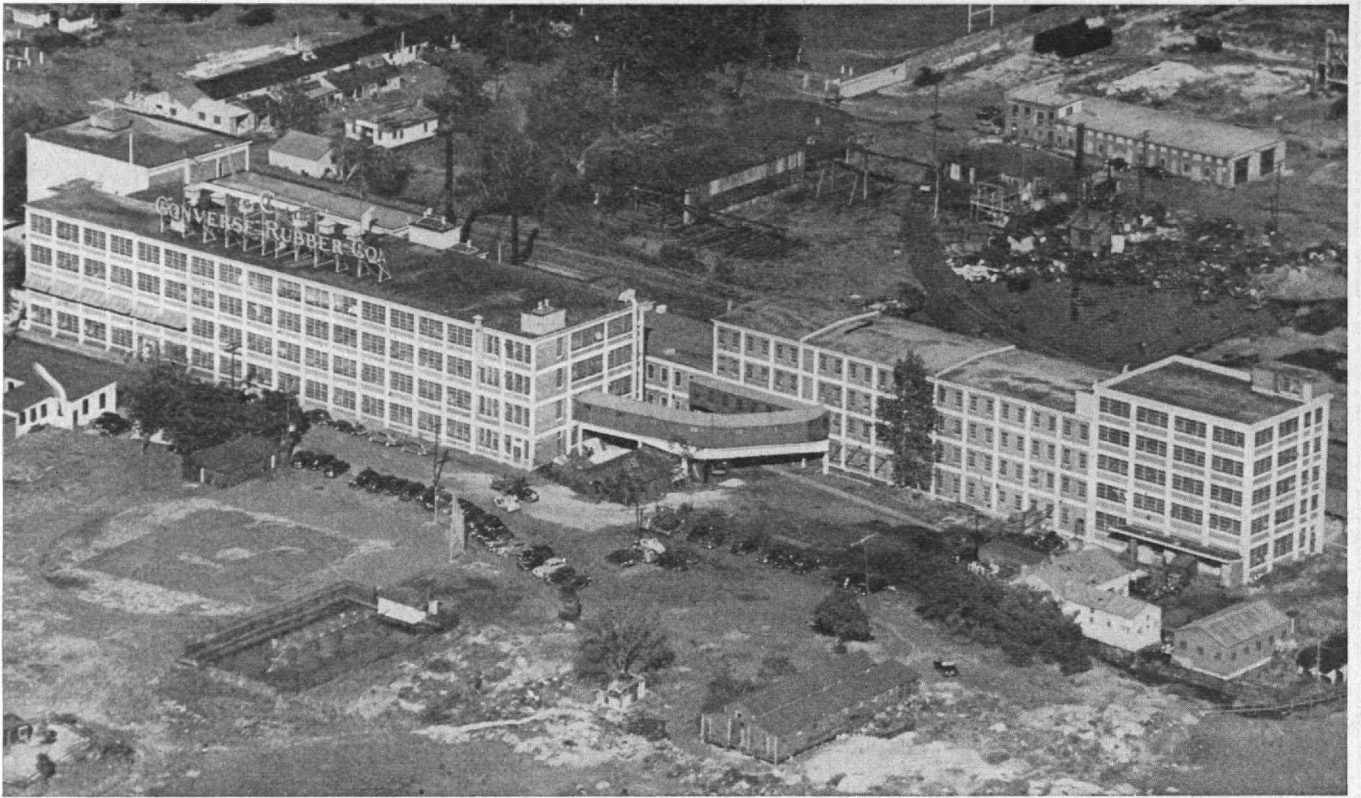
**NORTON COMPANY, WORCESTER 6, MASS.**  
(Behr-Manning, Troy, N. Y. is a Norton Division)

**NORTON ABRASIVES**



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# CONVERSE

A name respected for quality wherever waterproof rubber footwear, sporting footwear, basketball footwear and athletic footwear is made, sold and worn.

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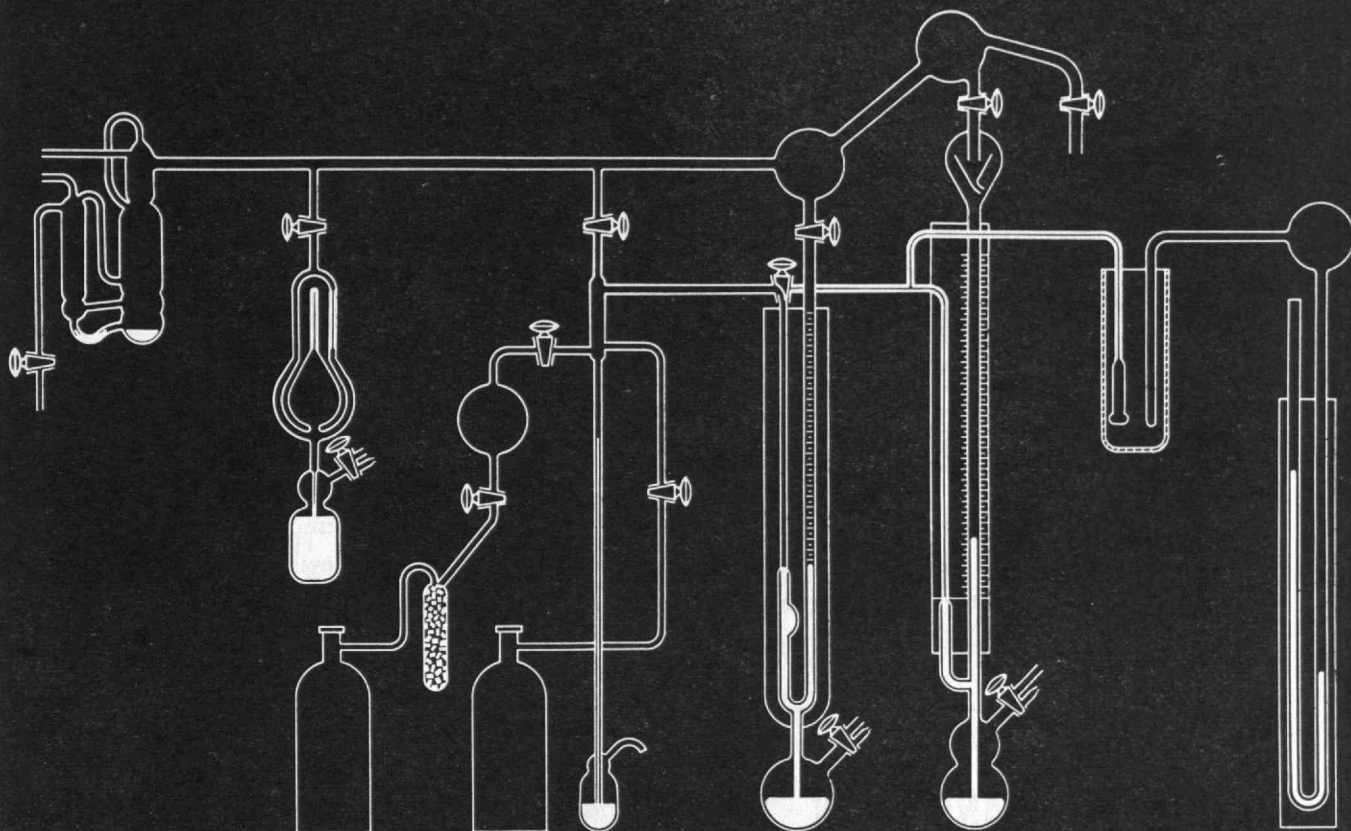
Malden 48, Massachusetts

A. H. WECHSLER '21

L. P. SANBORN '17

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# CABOT RESEARCH AND DEVELOPMENT



GAS ADSORPTION APPARATUS

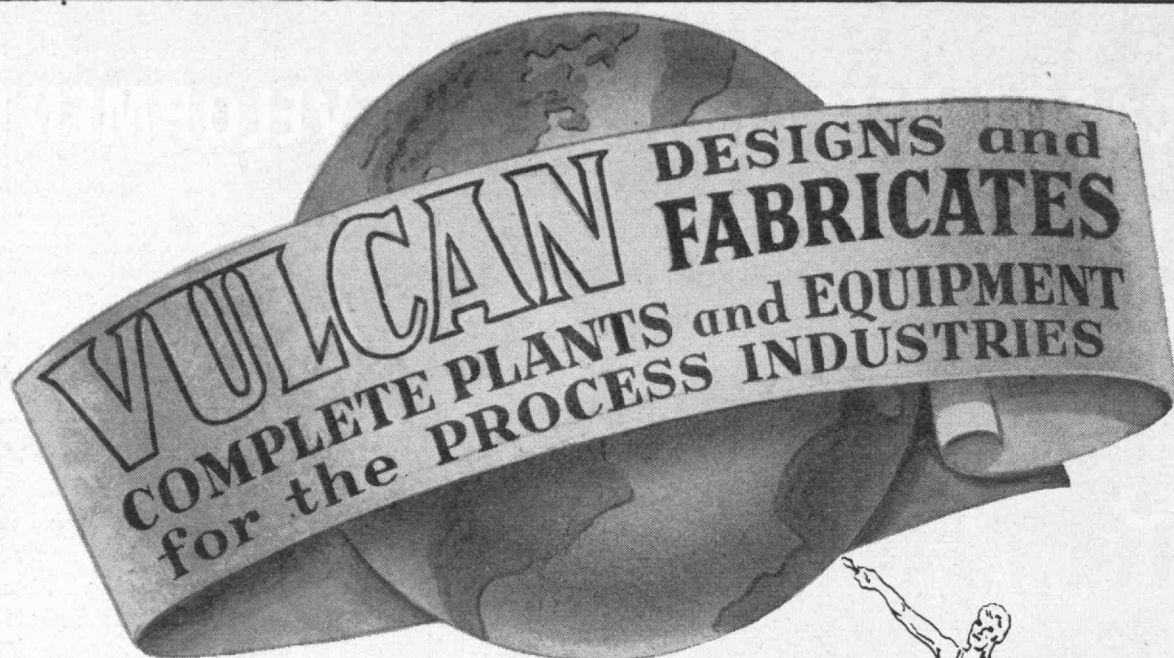
The surface area value of carbon black provides another implement for control and maintenance of quality. This apparatus, developed in the Boston laboratories of Godfrey L. Cabot, Inc., has measured surface areas of hundreds of carbon black samples. Over the past eight years this contribution has provided rubber chemistry with yet another factor in the rubber reinforcement equation.



**GODFREY L. CABOT, INC.**

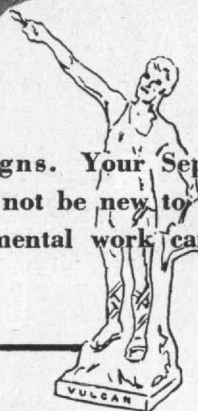
77 Franklin Street, Boston 10, Mass.



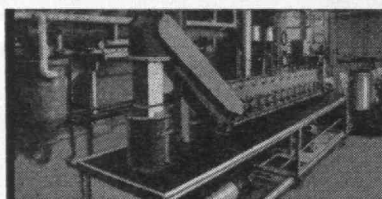


Vulcan's engineers are organized to handle Difficult Separation Problems. Vulcan's laboratories are organized to verify the operability and efficiency of

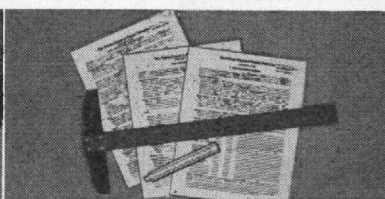
all new designs. Your Separation Problem may not be new to Vulcan. Costly experimental work can often be avoided.



**COMPLETE ORGANIZATION  
SERVICE FOR A  
HALF CENTURY**



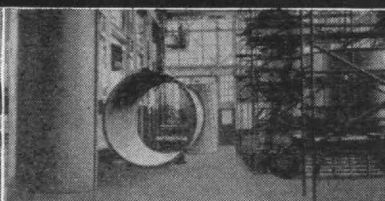
**PILOT PLANT**



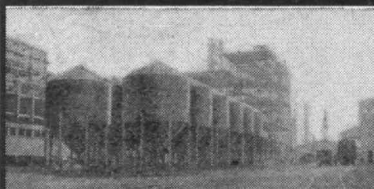
**PROCESS DESIGN**



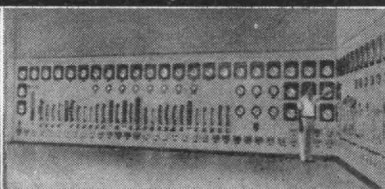
**MECHANICAL DESIGN**



**SHOP FABRICATION**



**FIELD ERECTION**



**INITIAL OPERATION**

**THE VULCAN COPPER & SUPPLY COMPANY**

General Offices and Plant — CINCINNATI, OHIO

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SAN FRANCISCO

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STUYVESANT TOWN and PETER COOPER VILLAGE

# HABIRSHAW WIRES AND CABLES

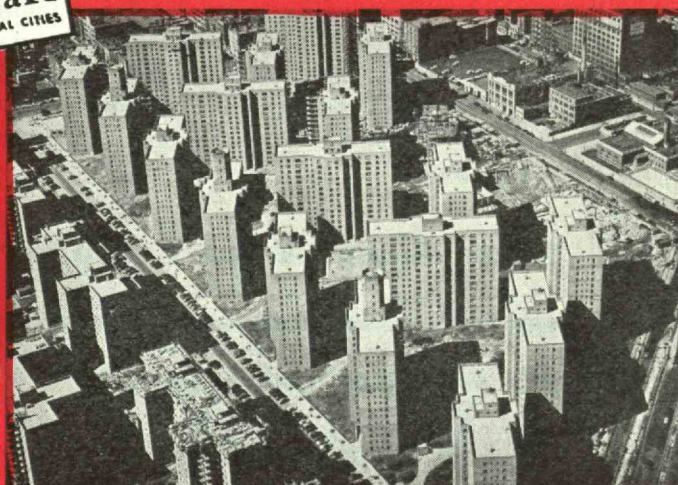
*used throughout* These Metropolitan Life Insurance Company's Housing Projects

STARRETT BROS. & EKEN, INC.  
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RIVERTON



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MEMBER FEDERAL RESERVE SYSTEM  
MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

## THE TABULAR VIEW

**Unfinished Business.** — On page 444 of the June issue of The Review there appeared the Technology Crossword Puzzle by JOHN M. KECK, '23. Should there be any who had difficulty in fitting the right letters to the appropriate squares, however, the pathway to success, on page 542 of this issue, may provide a welcome conclusion to unfinished business.

**Energy Resources.** — Taken as a whole, the world has ample natural resources of energy for generations to come. Such is the contention of ROBERT T. HASLAM, '11, Vice-president and Director of the Standard Oil Company of New Jersey, whose symposium address appears on page 493 under the title "World Energy and World Peace."

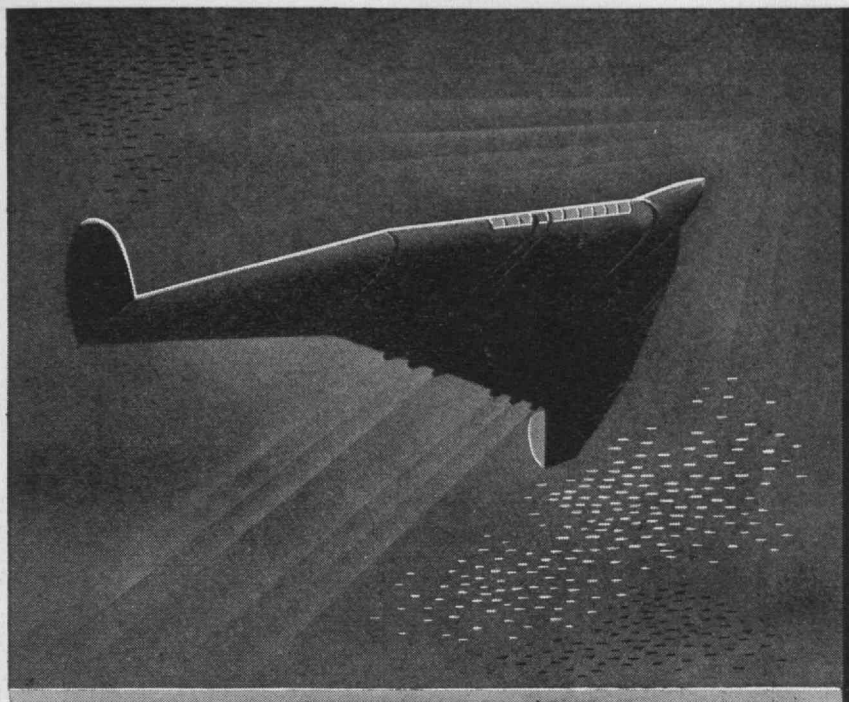
**International Co-operation.** — In demonstration of his convictions, the RIGHT HONORABLE CLARENCE D. HOWE, '07, Minister of Trade and Commerce in Canada, traveled from Ottawa to Cambridge to deliver his symposium address "Defense, International Co-operation, and Peace" which appears on page 497. Beginning as an assistant in civil engineering at M.I.T., after his graduation from the Institute, Mr. Howe's career as engineer turned public servant provides rich experience from which are drawn the sage conclusions recorded in this issue.

**European Recovery.** — Recently promoted to professor of economics after being associate professor at M.I.T. for six years, RICHARD M. BISSELL, JR., has been given unusual opportunity to practice his subject under crucial circumstances, as newly appointed director of operations, Economic Co-operation Administration, European Recovery Program. His symposium address, "The Economic Means to Peace," is presented in substance on page 499.

**Domestic Education.** — Unlike most graduating classes the Class of 1948 had the rare good fortune to have its commencement address delivered by a winner of the Nobel Prize, who, in accordance with family tradition of serving in academic circles, is chancellor of Washington University. The profound thoughts on the training and responsibilities of collegians, expressed in the commencement address of ARTHUR H. COMPTON, are recorded on page 501.

**Into the World.** — As his valedictory address to the graduating class, PRESIDENT KARL T. COMPTON took a stimulating but realistic stand in discussing the urge for self-improvement which characterizes man. His address to the graduates appears on page 504.

*The Review is not published during the summer months following July. This issue, therefore, concludes Volume 50. Number 1 of Volume 51 will be published on October 27 and dated November. Readers who bind their copies are reminded that if they possess nine issues of Volume 50, their files are complete. An index to the volume will be ready on September 30 and will be supplied post free upon request.*



## Moving faster!

Efficiency in many mechanical devices is often a matter of high speeds and low weight. The resultant stresses make heavy demands on parts, whether they be in aircraft or automotive engines, machine tools or locomotives.

Molybdenum is the only alloying element that gives steel the two vital necessities for meeting such requirements—good hardenability and freedom from temper brittleness. Molybdenum steels will also meet the requirements of production economy.

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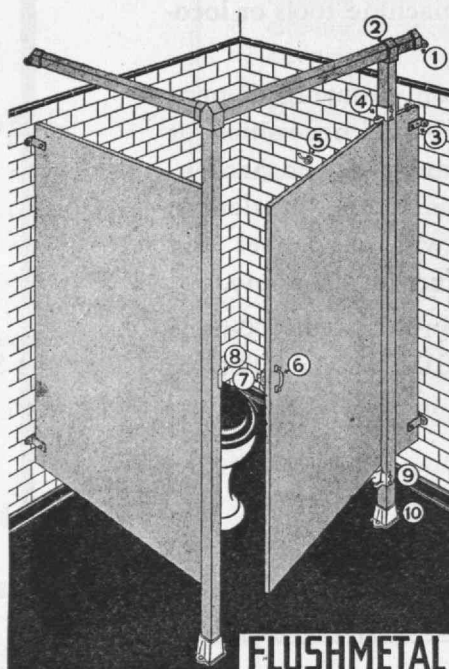
**Pittsburgh, Pa. • BETTER BILT SUPPLY INC.**

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1307 East Main Street . . . . . *Culver 3878*

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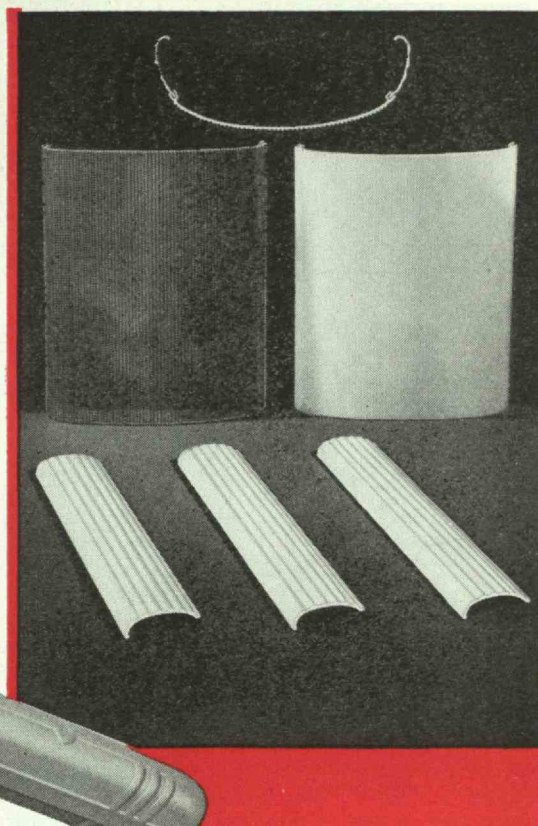
Metal toilet partitions and doors of Flush or Paneltype construction and of various designs according to Architect's plans and specifications for any kind of building.

NATHAN SCHOOLER '24, President

## HERE'S *STREAMLINED BEAUTY* AND TOP LIGHTING EFFICIENCY

**T**HIS was the goal set by Westinghouse Electric Corporation for a new fluorescent lighting fixture. Their design and development engineers knew there was only one way to attain this goal—*by using extruded plastics!* They also knew that Sandee could *DEVELOP* and *SUPPLY* these large sections, maintaining the very close dimensional tolerances required by this design.

Examine carefully the fixture design, the size and shape of the extruded parts. These indicate quite clearly the ability of Sandee engineering and production departments to follow through on any practical new designs you may have.



WESTINGHOUSE ELECTRIC CORPORATION'S  
NEW FLUORESCENT LIGHTING FIXTURE

SALES REPRESENTATIVES IN 19 PRINCIPAL CITIES

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5050 FOSTER AVENUE • CHICAGO 30, ILLINOIS

WORLD'S LARGEST CUSTOM EXTRUDERS OF PLASTICS



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## Stand for Quality

THE INTERNATIONAL  
STANDARD  
OF EXCELLENCE

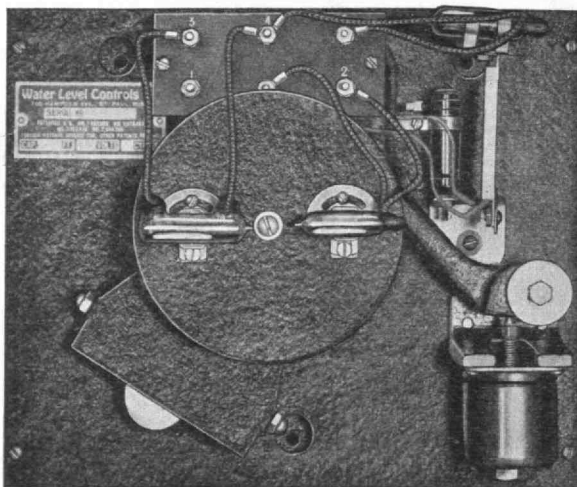
SINCE 1880

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Executive Vice President

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**HIGGINS INK CO., INC.**

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**TYPE "A"  
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Operates from the pressure in the pump discharge line, at the pump house. The electric time delay prevents starting and stopping due to surges. It also protects deep well turbines from damage due to back-spin. . . . Type "A" Multi-Pump Roto-Trol is designed for two or more pumps discharging into the same dis-

charge pipe. Adjusting time delays compensate for additional pumping friction and surges when second pump starts or stops.

**WRITE for DATA**

**Water Level Controls Division of  
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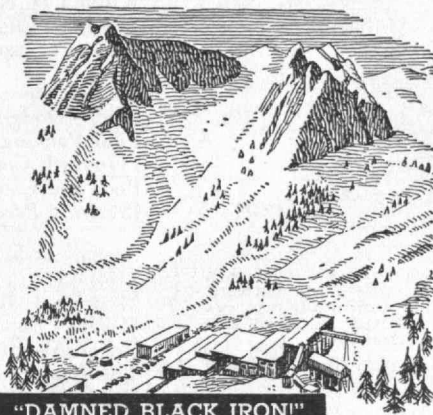


# THE STORY OF TUNGSTEN



**DAMASCUS SWORDS**

**1** Tungsten has been found in medieval Damascus swords—so hard they could cleave iron spears at a blow, so keen they could cut floating gossamer, so elastic they would spring back to shape after being bent to a right angle. Yet it is only for about 50 years that tungsten has been known as a valuable alloying metal.



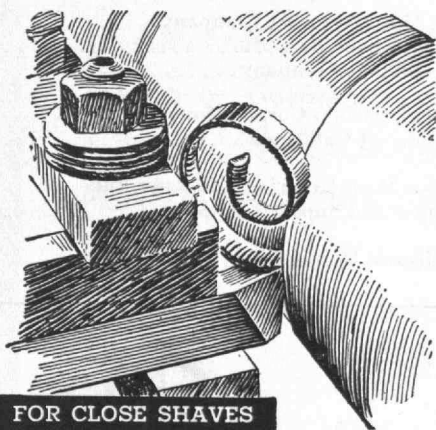
**"DAMNED BLACK IRON!"**

**2** The exciting flash of gold was the dream of miners in gold rush days. They cursed when their pickaxes rang against a stubborn black rock—one of the tungsten ores, which has since sold for as much as gold ores. Tungsten ore is mined in the United States and many other countries throughout the world.



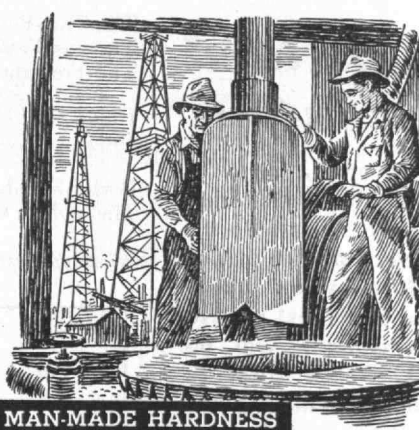
**HOT AND HEAVY**

**3** Tungsten (which is Swedish for "heavy stone") gets hotter than any other metal before it melts—6,100° F. That's why it is used in electric lamp filaments and has many valuable industrial applications where high heat resistance is needed. Electromet produces pure tungsten powder, ferrotungsten, and calcium tungstate.



**FOR CLOSE SHAVES**

**4** In cutting tools of high-speed steel and tungsten carbide and in the well-known HAYNES STELLITE non-ferrous alloys, tungsten produces a hard edge that stays hard even under extreme friction and high temperatures. Tungsten has other important uses, such as in the heat-resisting metals of gas turbines and jet engines.



**MAN-MADE HARDNESS**

**5** Nature made the diamond, but man has created something almost as hard—tungsten carbide. This highly abrasion-resistant material is used for dies and tools and as a welded deposit on parts exposed to extreme wear. For instance, this tungsten alloy applied to drill bits enables oil men to drill wells almost three miles deep.

## Help Wanted?

If you need help on some specific application of ferro-alloys or alloy steels, let Electromet work it out with you. Our modern, completely equipped research laboratories at Niagara Falls, New York, are staffed by men who have had years of experience in helping ferro-alloy users solve problems that arise in their plants and in the markets served by them. You can learn more about this unique service by writing to our Technical Service Department for the booklet, "Electromet Products and Service."

## ELECTRO METALLURGICAL COMPANY

Unit of Union Carbide and Carbon Corporation  
30 East 42nd Street  New York 17, N. Y.

ELECTROMET Ferro-Alloys and Metals are sold by Electro Metallurgical Sales Corporation, and Electro Metallurgical Company of Canada, Limited, Welland, Ontario.

# Electromet

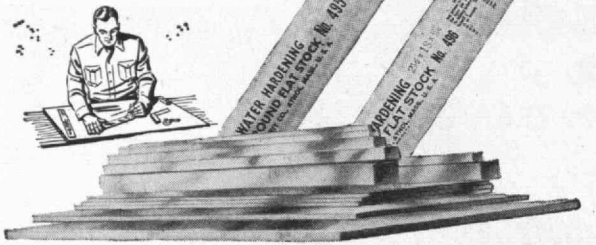
TRADE-MARK

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### Use STARRETT Precision Ground FLAT STOCK



MAKE SHORT WORK OF templates, gages, test and cutting tools, parallels, machine parts, etc.

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Write for Starrett Ground Flat Stock folder "L".

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THE L. S. STARRETT CO. • ATHOL, MASSACHUSETTS • U. S. A.  
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Every order, large or small, has undivided attention focused on it at every step of manufacture—your assurance that most precise specifications will be met. Diefendorf is equipped to make gears of all types and sizes, all metals and non-metallics.

DIEFENDORF GEAR  
CORPORATION  
Syracuse 1, New York

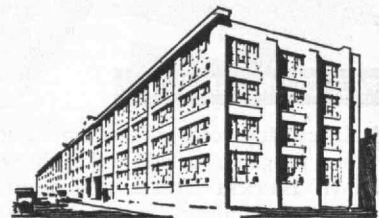
# DIEFENDORF GEARS

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### Speed with Economy



Mack International Motor Truck Corp.

Though our basic personnel still remains essentially the same, recent additions to our staff, due to increased activity, have contributed greatly to our versatility, to the volume of work we are equipped to handle effectively, and to the territory in which we operate.

W. J. BARNEY CORPORATION  
101 PARK AVENUE, NEW YORK  
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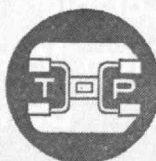
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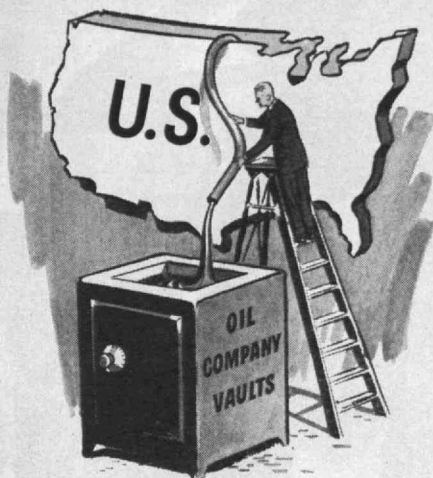
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# Do the oil companies "exploit" our natural resources?



**1. Every so often** someone comes up with the old cry that the oil companies are "exploiting" America's natural resources. Invariably they point out that since those resources *belong* to the American people, the oil industry should be *owned* by the people—that is, government-owned and operated.



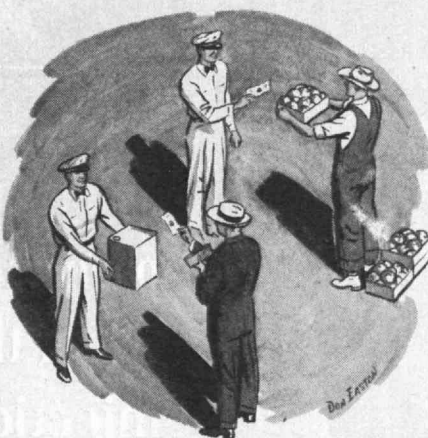
**2. If the oil companies** were actually taking the oil resources of this country and *making off* with them, this argument might have some merit. But it so happens that 92% of the oil produced in this country is *consumed* by the American people. Even the 8% that is exported is almost exactly balanced by imports.



**3. So the oil** that *belongs* to the American people actually *goes* to the American people. The only difference is that the American people pay *private oil companies* for getting the oil out of the ground—and making useful products of it—instead of paying their *government* for doing the job.



**4. Last year**, for example, Union Oil Company produced, refined and distributed 2 billion, 12 million gallons of petroleum products for the American people. The total profit received by the company for performing this job amounted to just 9/10¢ per gallon. Of this 9/10¢ only 3/10¢ was paid out in dividends to the stockholders; 6/10¢ was plowed back into the business.



**5. In other words**, one group of Americans—our customers—paid another group of Americans—our employees and stockholders—for furnishing them with petroleum products; just as Union Oil people pay farmers for furnishing them with food. When all the out-of-pocket costs of doing the job were met, and the employees' wages were paid, the stockholders got 3/10¢ per gallon for financing the operation.

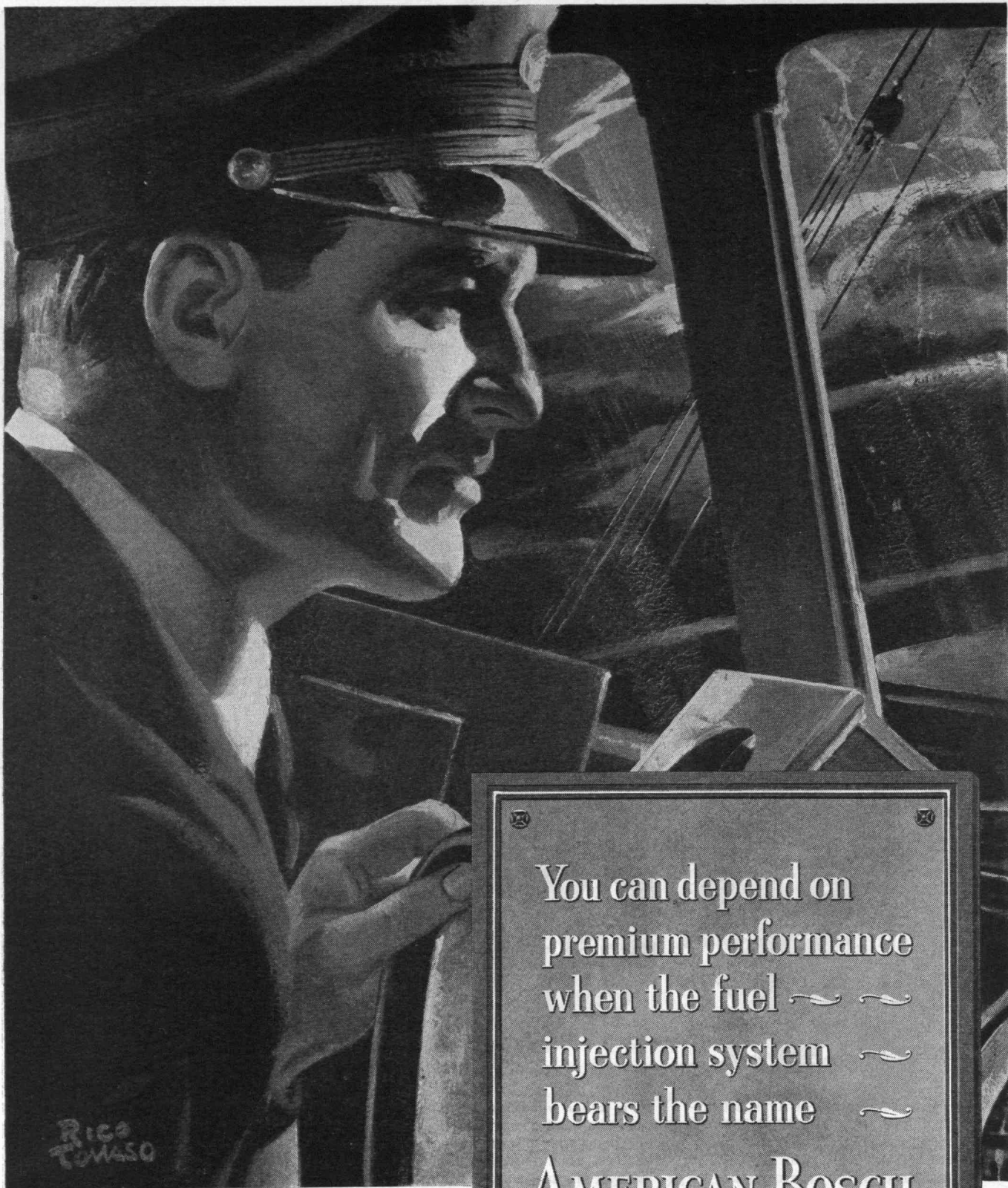


**6. So theoretically**, even if Union Oil were government-owned—and operated as efficiently as private citizens operate it under a competitive system—the *maximum* "exploitation" that could be eliminated would be 3/10¢ per gallon. In actual practice, however, we all know this theoretical saving would be offset many times over by the inefficiencies of government operation. So the argument makes about as much sense as saying that the government should own and operate all farms.

**UNION OIL COMPANY**  
OF CALIFORNIA

INCORPORATED IN CALIFORNIA, OCTOBER 17, 1890

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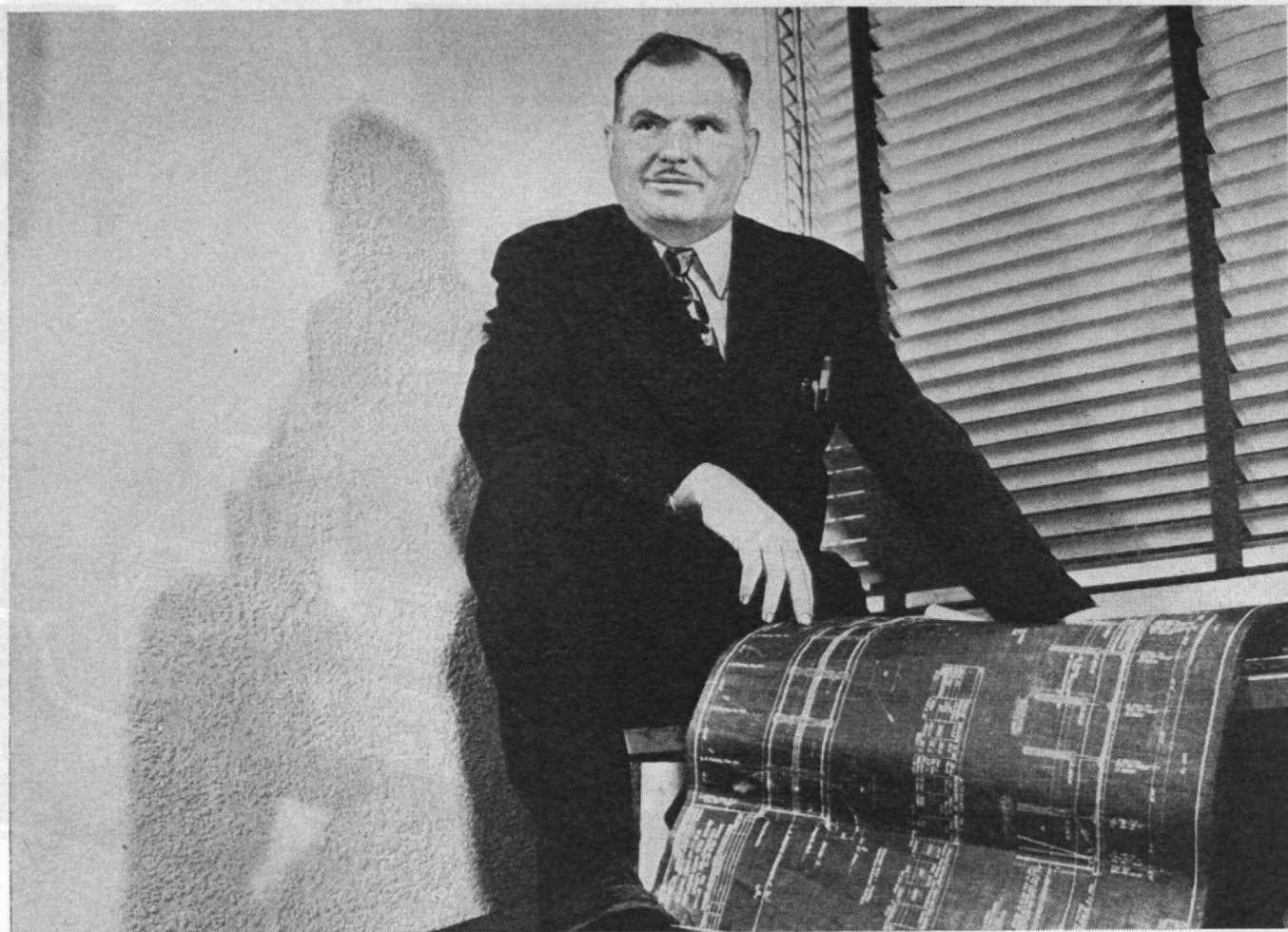


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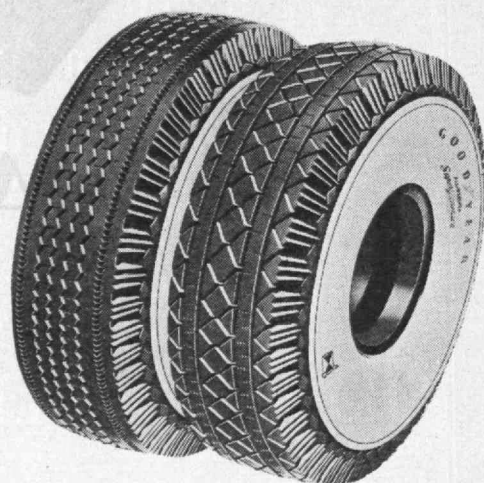
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# THE TECHNOLOGY REVIEW

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EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY



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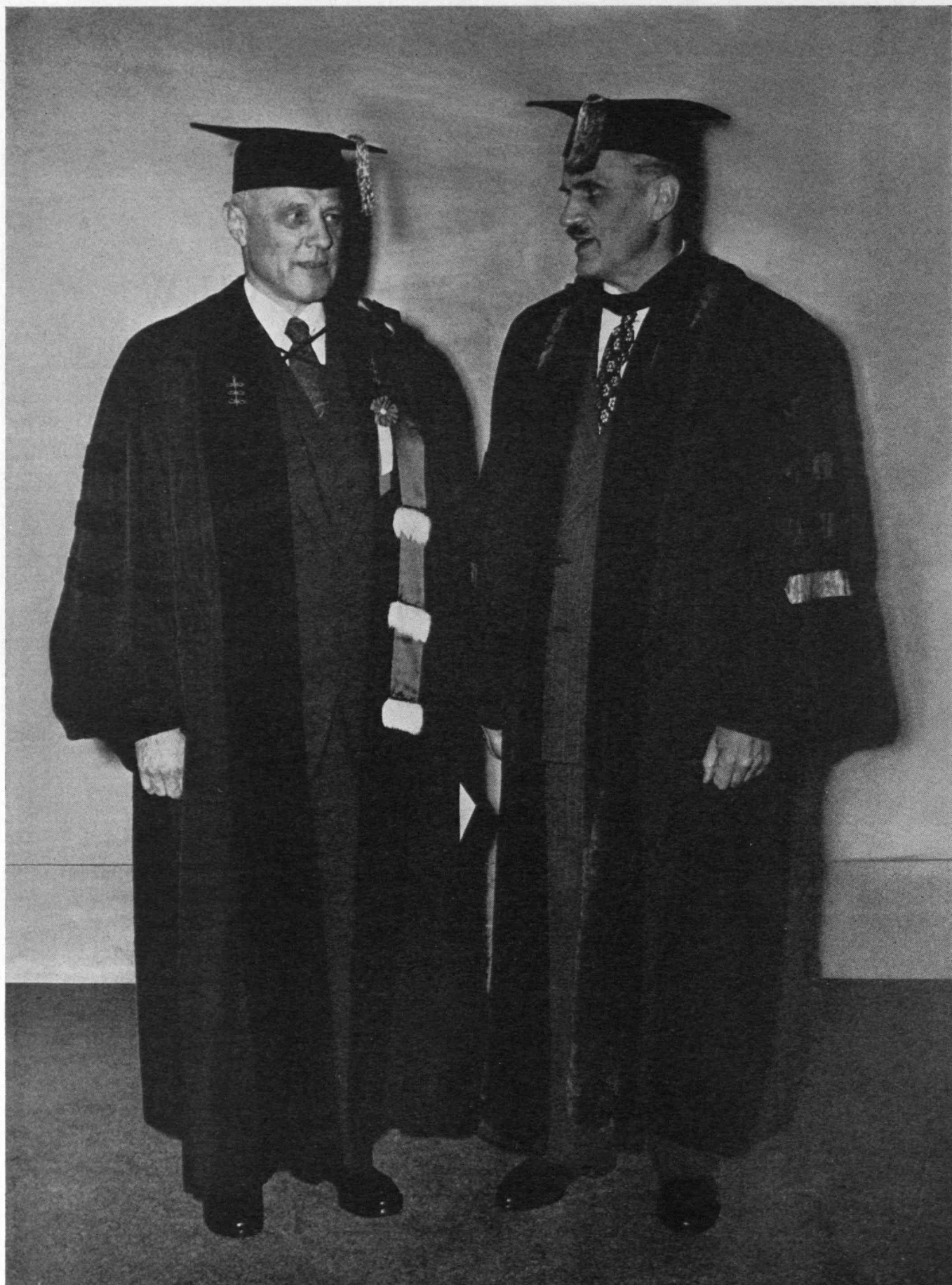
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*The largest class ever to be graduated from M.I.T. had the unusual honor of being addressed by two brothers of a distinguished American family during commencement exercises on June 11: Karl Taylor Compton, President of the Institute, and Arthur Holly Compton, Chancellor of Washington University, and 1927 winner of the Nobel Prize in physics.*



# THE TECHNOLOGY REVIEW

Vol. 50, No. 9

July, 1948



## The Trend of Affairs

### *Scientific Froth*

**I**T is a simple enough matter to make a fixed model of a crystal with the atoms (little, black balls) neatly strung on wires in perfect geometric order. Producing a model that shows some of the dynamic behavior of a crystal, including its response to imperfections, is quite another problem however. It has been tried with floating magnets and with floating disks, but the frictional forces between such atom models have often been excessively large. Worse still, it was impractical to provide a sufficiently large number of "atoms" to duplicate the conditions in a real crystal. Nevertheless, such atom models have been exceedingly useful in obtaining a qualitative picture of the behavior of submicroscopic particles, as the suspended magnets of J. A. Ewing so well illustrated, half a century back, in yielding a clue to the elementary particle basis of magnetism.

Sir William Bragg was also among those who played with the floating magnets and was impressed with the limitation which such macroscopic models impose when used to represent submicroscopic phenomena. Another member of this famous family was to achieve greater success. In co-operation with J. F. Nye, Sir Lawrence Bragg, son of Sir William, has recently discussed a method of constructing crystal models that overcomes many of the former limitations.

These models, both two and three dimensional, are built up of tiny bubbles, their diameters ranging from 0.08 to 0.004 inch (2.0 to 0.1 millimeters). This is a very orderly froth, however, a given model being made up of as many as 100,000 bubbles which are of the same size to within narrow limits. Accurate control of diameter is one of the principal factors in the startlingly realistic behavior of the bubble rafts, and it is interesting to observe that the occasional rogue or "foreign" bubble, of different size, generally is found in the grain boundary where it disturbs the normal arrangement of the atoms for large distances around it.

The bubbles are blown by means of a steady flow of air through an orifice submerged in a tray of the bubble solution. For the benefit of those who wish to blow bubbles in an approved scientific manner, the liquid is a water solution of oleic acid, triethanolamine and glycerin. The tiniest bubbles were produced by whirling the solution past the orifice at high speed. A helpful feature of these bubbles is their rather long life which may be up to an hour or even more.

When one of these bubble rafts is viewed obliquely, it is said to have a remarkable resemblance to the polished and etched surface of a metal specimen. The raft will deform, under stress, in a manner analogous to the behavior of particles in a metal. When strained beyond the elastic limit, the rows of closely packed bubbles will begin to slip over one another, in steps of one bubble diameter, or as Bragg and Nye put it, one "interatomic" distance. But the entire row does not simultaneously slip over its neighbor. The disturbance starts at a point where an extra bubble has crowded into the normal spacing, and then slowly flows like a wave across the row, sometimes taking several seconds to cross a "crystal." In many respects the phenomenon is similar to the plastic flow in highly stressed metals. Behavior analogous to recrystallization and annealing can also be observed.

If bubble blowing continues after the tray of solution is completely covered, the bubbles will accumulate in multiple layers, duplicating the spacing and some of the properties of simple three-dimensional crystals.

### *Positive Notes on Cosmic Rays*

**S**INCE the first observation at the beginning of the century that very fast-moving particles are constantly traversing the atmosphere and causing ionization (the splitting off of electrons from atoms in the air), cosmic rays have received extensive study by physicists. The tremendous interest in cosmic rays arises not only from the need for learning their origin in the universe, but be-



Thirteen balloons are required to lift 30 pounds of instruments nearly 19 miles above the earth for studies of cosmic rays by Professor Bruno B. Rossi and Robert I. Hulsizer, Jr., G, research associate, of the Laboratory for Nuclear Science and Engineering at M.I.T. Their research reveals that the primary cosmic rays consist of less than four per cent electrons — knowledge that will enable scientists to better estimate the origin in interstellar space of these mysterious rays and how they achieve their energies of millions of billions of electron volts.

cause these incoming particles have energies of millions of billions of electron volts. Cosmic rays, therefore, serve as natural projectiles of enormously higher energy than any artificially produced particles created in experiments engineered by man. In their descent through the earth's atmosphere, the primary particles, whatever they are, produce electrons, protons, neutrons, mesons, and gamma rays by bombardment. All of these secondary particles have energies comparable to those of the primary rays. Thus does nature provide an atomic particle accelerator of extremely high energy. By correlating cosmic-ray observations with the elementary products produced by man-made accelerators, knowledge of the ultimate constitution of matter may be acquired.

One of the earliest questions investigated was whether or not the cosmic-ray phenomena are caused by the presence of radioactive atoms in the atmosphere or the earth, or by particles that originate outside the earth's atmosphere. By 1926, experiments using balloon-carried apparatus had shown that the ionization effects increase with altitude almost to the top of the earth's atmosphere. Hence, the origin of the primary cosmic rays was definitely established to be outside the earth and its atmosphere. It was similarly established that the sun is not the point of origin. In 1926, the observation of cosmic rays in South America, when the Milky Way was not visible, indicated the origin of the primary rays is beyond the Milky Way.

Whether the primary particles of cosmic rays carry a charge, like the electron or proton, or are neutral, like the neutron, was another matter to be experimentally studied. If the primary radiation is charged, a geomag-

netic effect (a phenomenon which concerns variations with latitude in the number and energy distribution of cosmic rays) would be expected. By 1930 this effect had been definitely shown to exist and was considered proof that the primary particles are charged.

For many years some scientists have maintained that the primary rays are mostly electrons, but in 1930 the prediction of Bruno B. Rossi, Professor of Physics at M.I.T., and the verification in 1933 of an East-West variation in cosmic rays indicated the possibility that the major fraction of the primary cosmic rays might be positive in nature in which case they could not consist of the negatively charged electrons. At that time protons were predicted (and are still believed) to be the positive component of the radiation.

High-altitude research at M.I.T. now reveals that primary cosmic rays — the particles which constantly bombard the earth from outer space — consist of less than four per cent electrons. Knowledge of the ratio of protons to electrons permits a calculation of the time of travel of the primary cosmic rays and hence of their point of origin in space, long a mystery of science.

The fact that primary cosmic rays consist of practically no electrons gives important support to the theory that protons, the nuclei of hydrogen atoms, are by far the major component of cosmic radiation. The discovery, however, raises the problem of how electrons of billions of electron-volts energy are produced in the first collisions of primary cosmic rays with the atmosphere, a phenomenon that is not explained by any process now known. The presence of extremely high-energy electrons in the upper atmosphere first led many scientists to believe they were part of the primary rays.

The research, which definitely disproves a contention held by some scientists over many years that electrons constitute a large share of the primary cosmic rays, was carried out by Dr. Rossi and Robert I. Hulsizer, Jr., of the Institute's Laboratory for Nuclear Science and Engineering. The studies, which have been going on since 1946, were carried out by means of balloon soundings at altitudes up to 100,000 feet, and with the aid of an instrument equipped Air Forces Flying Fortress.

In their research on the number of electrons in the primary cosmic rays, Dr. Rossi and Mr. Hulsizer employed a pulse-type ionization chamber developed during World War II for nuclear physics research. With this chamber a measurement of the number of incoming high-energy electrons was made with the aid of balloons at an altitude of nearly 19 miles, where only two per cent of the earth's atmosphere was above the instruments. It was at this altitude that measurements showed that the number of incoming high-energy electrons is less than four per cent of the number of primary cosmic rays.

The ionization data, as well as temperature and pressure measurements taken by the balloon-borne equipment used in these experiments, were automatically radioed to the home station in the Cambridge area. After attaining an altitude of about 30,000 feet, the balloon equipment was often carried away by winds of 70 miles per hour, or more, and ordinarily traveled over the earth's surface approximately 150 miles in five hours. Although a reward notice was always posted on the equipment of each flight, only a small percentage of the instruments sent aloft has been returned. The rest are believed to have landed in the Atlantic.



# World Energy and World Peace

## *Properly Directed by Energy of the Human Spirit, Resources of Physical Energy Are Adequate to Make Possible World-Wide Peace*

BY ROBERT T. HASLAM

SYMPOSIUM SPEAKER

WAR'S drain on human and material values is beyond comprehension. Speaking of the material cost alone, Congressman Herter of Massachusetts recently stated that even for the peace-loving United States 85 per cent of all government expenditures since the founding of our republic down to the present time, have been in preparation for war, for war, or for the aftermath of war.

The phrase "Logistics of Peace" means to me that we are here looking at peace as a positive objective, capable of achievement by positive, well-organized approaches. The arresting quality of the phrase lies in the fact that it carries over to the side of peace a point of view which is normally associated with war. We are not here considering peace as a situation which exists when men are not waging war, but we are consciously taking the position that we intend to wage peace and that a condition of war will represent a failure to achieve our objective.

Widespread acceptance of this point of view in itself would be a great achievement. Peace must be waged. It must be built. It must be created out of some very difficult and uncertain material. We must organize for it, work for it, fight for it. It is entirely right to approach the subject dynamically as we are trying to do here.

Logistics is that branch of the military art which embraces the detail of transport and supply. It is apparent to us all that there is far more to the military art than logistics. Psychology has a tremendous role to play. The great military leaders have been well aware of the influence of politics on the conduct of a war.

It is certain, therefore, that logistics alone will not win for us the fight for peace. At the same time, one of the most familiar military quotations of our time reminds us that a very great help in winning is to "get there first with the most." This implies that logistics can play a vital part in our whole undertaking.

Anyone who attempted to present the causes of war would be certain to find himself lost in a jungle of arguments. But, at least we can agree on the direction in which we must move. We can say that our grand, strategic objective must be a world in which social, economic, psychological, and political conditions favor the growth of peace and do not favor the growth of war.

Let me try to describe such a "climate" in which peace seems likely to prosper. I would name four fundamental elements as necessary for the development and maintenance of world peace.

A world in which the people rule is the first condition to be fulfilled. I have no faith that we can have peace in a world where governments are not responsive to the will of the people. Thomas Jefferson said: "I know no safe

depository of the ultimate powers of society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education."

My second "climatic" condition is a world in which maximum freedom and opportunity are given to the individual. If we are to create a world at peace, we will need all of the energy and strength of which man is capable. This is a gigantic undertaking. If we are to create a better world, the economic tasks alone are tremendous, and will require of us all the energy, initiative, and enterprise we can muster across the face of the globe. To me it is evident that the greatest human driving forces yet developed are liberty and freedom of opportunity. Given a chance to be ambitious, and to create a better world for themselves and their families, men have proved, here in America, that liberty is a tremendous energizer.

Not long ago H. G. Weaver of General Motors Corporation said this: "Down through the ages, countless millions, struggling unsuccessfully to keep bare life in wretched bodies, have died young in misery and squalor. Then suddenly, in one spot on this planet, people eat so abundantly that the pangs of hunger are forgotten. Why did men die of starvation for six thousand years? Why is it that we in America have never had a famine?"

We owe much in this country to our natural resources and our fortunate geographical position. But we owe far, far more to the vast release of human energy which comes when the individual is free to work for his own advancement. Anything which destroys opportunity, whether it be a government, a cartel, a restrictive labor union, or legislation designed to block the individual, is not in the interests of peace.

As a third condition for peace, I think we must seek a world in which production is expanding. If we are to make ourselves a better world, we must increase the production of a great many things in order to raise the standard of living for hundreds of millions of people, particularly outside the United States, who are now at or below a subsistence level.

Half the people of the world today suffer all their lives from malnutrition and the diseases of malnutrition. It has been estimated that at least 500,000,000 people are born and die without ever having had enough to eat—even one day in their lives.

William O. Douglas, Supreme Court Justice, recently said: "The voice of America, if it is to be powerful among the masses of people, must do more than talk of the glories of democracy. If we want the hundreds of millions of the peoples of the world in the democratic ranks, we

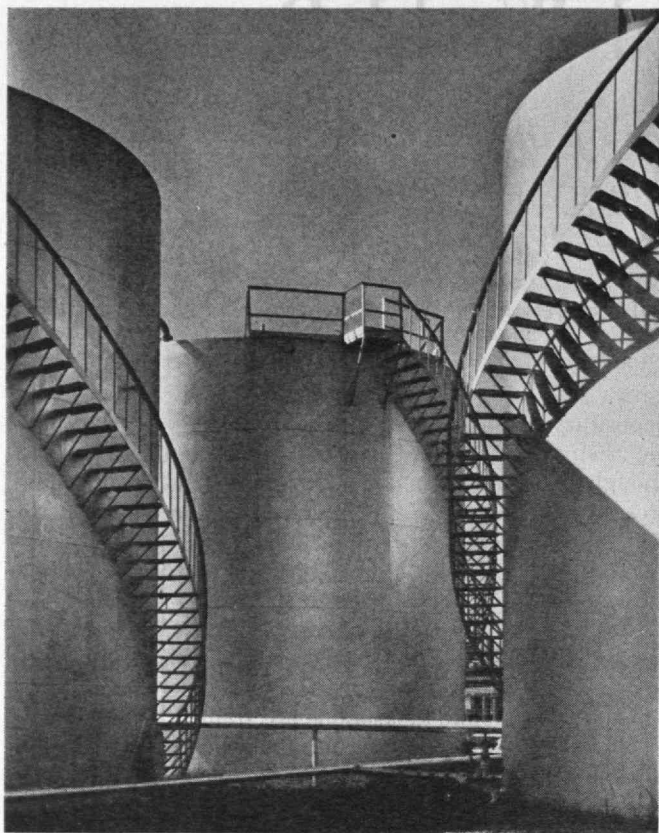


Photo by Webb—Standard Oil Company (N. J.)

*It must be clear that the productivity necessary for a tranquil, peaceful world will require a great increase in the use of machines for the production of food, goods, and services. Has the world enough energy, in the form of fuel, for such a vast undertaking? Taking the world as a whole and considering all forms of fuel, the answer is "yes."*

must show them the way with practical programs of social reconstruction . . . the real victory over communism will be won in the rice fields rather than on the battle fields."

I have a fourth condition to suggest. We need a world in which we keep the virtues of national feeling but begin to outgrow some of the vices of nationalism. There is no finer emotion than patriotism. It is good for the spirit of man to be attached to the land where he was born or where he has chosen to make his home. Love of one's own land is a great virtue.

What we must begin to move away from on a world scale, if we are to have a world unified in peace, is the debasement of the currency of national feeling. We must move away from the foolish excesses of sovereignty. It is when sovereignty becomes an instrument for aggression or suppression that it is a world danger.

Certainly I do not intend at this point to get into any discussion of world government. I think, however, that the job of the future is to establish a co-operative system operating under law, and that a gradual change in our conceptions of national sovereignty everywhere is inevitable if we are to succeed.

In listing the conditions favorable to peace, I have very carefully refrained from saying that it is the job of our country to enforce these conditions on any other people. I do not believe that the peace we all want to achieve in the end is an enforced peace. I think what we are reaching for here is not the forcible suppression of wars but the purposeful elimination of conditions which will create wars.

We have, then, the long-term strategic objective of helping to create a better world which will breed peace rather than war. But we also have a short-term strategic objective. We must prevent the development, in the near future, of conditions which will destroy any hope of our achieving the long-term objective. We must have peace now, in order to lay the foundations of permanent peace in the future. We must prevent war now so that we will have time to develop a social, economic, psychological, and political climate favorable to peace. More specifically, the Western world must be strong enough over the near-term to make the outbreak of war on any world scale unlikely. We alone can give the world time to develop a climate favorable to permanent peace. It is a great and terrible responsibility. It is one we cannot avoid except by abdication. It is a challenge and a responsibility which I believe the American people have come to see and which they are now prepared to accept. To discharge this responsibility, the United States must not only remain strong industrially, but it must increase its strength.

But it is only within the last few decades, when it became apparent that the physical world had been shrunk by invention, that we have been able to consider any program for the world as a whole. Now it is possible, and it is now necessary, for us as scientists, managers, technologists, administrators, to consider seriously the development of plans to bring peace to the entire world.

This whole subject is too vast to be encompassed by any individual. What I propose to discuss is the single problem of supplying sufficient energy for the Herculean task. It must be clear that the productivity necessary for a world such as we are considering will require a great increase in the use of machines for the production of food, goods, and services. There is no other way, I think, to make the lands of the earth sufficiently productive. There is no other way to produce the goods and services which are required.

I would like to deal briefly and quite generally with the physical energy resources of the world to see if they are sufficient for this tremendous task, and speak briefly also on the human energy problems and potentials.

Let us begin with the question: Has the world enough energy in the form of fuel for such a vast undertaking?

Taking the world as a whole and considering all forms of fuel energy, the answer is "Yes." The world's fuel resources are more than ample. The quantity of the world's fuel reserves, expressed in heat units, is so large as to be almost beyond comprehension. At the 1947 rate of consumption, the world should recover enough energy ultimately from coal, crude oil, oil shale, tar sands, and natural gas, to last for approximately 2,000 years. Whether a better estimate is 1,000 or 3,000 years is of little importance. The known energy supplies are evenly distributed between the Eastern and Western Hemispheres, each possessing about 50 per cent of the world's resources. At the rate at which the world, the United States, the Eastern Hemisphere, and the Western Hemisphere are each using energy, each should ultimately recover from its own resources sufficient fuel to last for more than 2,000 years at present rates of consumption.

This estimate deals only with sources of energy currently in use. It is probable, of course, that in the period of 2,000 years significant discoveries of new and, to us, novel energy sources will be made. We are not now using solar heat on any extensive scale, for example. No one



yet knows all that we may expect from uranium and atomic fission. Any forward thinking must leave room for the possibility of a fundamental discovery of tremendous importance.

It is important to note that there is about 30 times more coal than oil in the total energy reserves of the world. Yet, as all of us here realize, energy in the form of oil and gasoline has uses and values for certain purposes far exceeding that of coal or any solid fuel. Oil and gasoline are fluids and may be transported, moved, and the rate of flow may be carefully regulated much more easily than in the case with coal, or any solid fuel. Consequently, oil fuels are of the greatest advantage when used in mobile units, such as automobiles, busses, trucks, tractors, railroads, ships, and airplanes — all of which have developed tremendously in the last few years and have influenced our lives to an extent previously undreamed of. Without such mobile units as the truck and tractor, the greatly increased industrial and farm production of the United States could not have been brought about.

Here in the United States, oil and natural gas provide 45 per cent of the total energy used for all purposes. Coal provides practically the same amount. Throughout the rest of the world, however, coal provides about four times as much energy as do oil and gas. That is to say, outside the United States 68 per cent of the energy comes from coal and 17 per cent of the energy from oil and gas. In the United States our economy is primarily geared to oil and gas, while foreign economies are geared to coal. Petroleum has made a tremendous and disproportionate contribution to the improvement in production of goods and the standard of living in the United States during the present century.

Since 1914, the use of oil and gas in this country increased about 700 per cent and these fuels have supplied 80 per cent of the added energy required for the entire industrial and farm expansion over the past 34 years. Except for the depression years, coal production in the United States has been substantially constant for the last 20 or more years.

This 34-year trend toward constantly increasing dependence on oil and natural gas, and the key importance of the United States to the whole program we are considering, make us ask: Have we oil supplies adequate for the task? The answer again is "Yes."

Today within the confines of the United States we have 22 billion barrels of proven reserves, or 12 times our 1947 consumption. Present reserves plus discoveries yet to be made in the United States have been projected at about 100 billion barrels, or 52 times our 1947 annual consumption. Present knowledge leads to the belief that the Eastern Hemisphere is richer than the Western Hemisphere in crude oil and it is estimated that ultimately about twice as much oil will be found in the Eastern Hemisphere as in the Western. It is thought that the world may have a total of about 800 billion barrels of recoverable oil in reserve. This is 264 times the 1947 annual world consumption in contrast with 52 times the 1947 annual consumption for the United States alone.

As these facts show, from now on we will have to augment from other sources our declining crude oil production. The first source, of course, is importation from those foreign countries which are more bountifully supplied than the United States. This is already taking place, and in 1947, the United States ceased being a net exporter of oil and became a net importer of oil. Importation of oil into the United States will probably increase steadily so that by 1952, it will probably reach upwards of 1,000,000 barrels of oil per day, a substantial amount of which may come from the Middle East.

In a world of peace in which trade restrictions are at a minimum, such dependence on foreign oil presents no special difficulties and this gives the people of the United States an additional reason for working wholeheartedly for peace.

However, economic and strategic reasons probably will dictate other solutions, such as getting a larger share of our energy requirements from coal. This may require price adjustments between these two fuels as well as technological developments in the use of coal com-

*From now on we will have to augment, from other sources, our declining crude-oil production. Importation from foreign countries more bountifully supplied is our first source. In a world of peace in which trade restrictions are at a minimum, dependence on foreign oil presents no special difficulties. Economic and strategic reasons will probably dictate that we obtain a larger share of our energy requirements from coal. . . . There is sufficient energy in the United States in the form of coal, which we know how to convert to liquid fuels, to take care of all requirements for centuries to come.*

Photo by Bubley—  
Standard Oil Company (N. J.)



mensurate with the technological developments over the past 50 years in the use of oil. For those energy uses for which liquid fuels are required (such as in automobiles, busses, trucks, tractors, airplanes, and so on), we can convert coal to gasoline and oil through processes that have already been developed. The operating cost of these processes is not unreasonable, especially when we consider the unique advantages of liquid fuels and liquid-fuel engines. Gasoline of exceptionally high grade can be made today from coal at an average cost of about six cents per gallon above present costs of gasoline from crude oil.

It should be pointed out, however, that the capital requirement for such energy conversion is tremendous. To produce only our present requirements of gasoline from coal would call for an expenditure of at least 20 billions of dollars and would require 11 million tons of critical steel. Therefore, the development of synthetic fuels from coal should take place gradually and slowly over as long a period of time as may be justified by economic conditions. Too rapid changes would place a strain on our economy that would be tremendous.

Therefore, we can say that there is sufficient energy here in the United States in the form of coal, which we know how to convert to liquid fuels, to take care of all requirements for centuries to come. In a world of peace without economic barriers, our problems are not severe.

Both the Eastern and Western Hemispheres have plenty of fuel resources. But now let's look at the use of energy by world areas. We will see that energy is not used by the people of the world for their own good on any well-balanced basis. The United States, with seven per cent of the world's population, uses 45 per cent of the world's fuel and annually consumes 246 million heat units (British thermal units) per capita. The people of the world, outside of the United States, while consuming 20 per cent more total energy, actually use only 10 per cent as much per person as we here in the United States. The only nation that even approaches us is Canada, whose per capita consumption is 82 per cent of ours. The European Recovery Plan nations use 25 per cent; Russia, 18 per cent; other European and North African countries, 15 per cent, of the United States per capita consumption. The balance of the world, comprising Asia, Oceania, and most of Africa, with 60 per cent of the world's population, uses only 10 per cent of the world's fuel and the per capita consumption is less than three per cent of that of the United States.

In consuming 10 times as much fuel per capita as the rest of the world, the United States produces two to four times as much goods per labor hour as even the more industrialized nations outside of the United States. As we examine these figures, we must be aware that a tremendous increase in energy production and consumption throughout the world, particularly outside of the United States, is necessary if the standards of living of the world are to be substantially increased. Here lies our problem. Obviously this is not going to be accomplished suddenly. We are going to achieve a world at peace only by working for it continually, persistently, and over a long period.

Now, let us look toward the future. In the first place, the world seems to be moving in the right direction, though slowly. Since 1914, or the beginning of World War I, the use of energy from all sources by the people of the United States has just about doubled, while in the world outside the United States the increase has been

only one-half as fast. Wars have contributed very largely to this situation. However, trend estimates based on individual uses of each fuel, indicate that over the next 20 years, given peace, fuel consumption outside the United States will increase about three times as fast as within the United States. Even so, this will leave the people of the rest of the world consuming energy at the rate of only 29,000,000 British thermal units per capita — still less than 12 per cent of the United States rate. Here is where great improvement must be made if the people of the world are to have a notably better living standard.

It should be remembered, however, that many of the social, political, and educational factors which have held back the development of certain areas for centuries, are still a problem and will be for many more years to come.

From a logistical point of view however, it is imperative that energy sources in each and every area should be developed as much as possible, not only to raise living standards everywhere, but so that there may not be any undue economic strain on other areas, or any undue waste in transport. One of the greatest sources of petroleum energy in the world is the Middle East. In all probability, ultimate resources in this area will be twice those of the United States. The full extent of its resources is unknown. For the good of the world it is necessary to develop this Middle Eastern oil. It is in the backyard of Europe, North Africa, and India. Middle Eastern oil should be developed, we feel, primarily for the Eastern Hemisphere. Its development would lift a burden from the back of the United States and the Western Hemisphere sources which have been serving the world's energy needs for so long.

To summarize very briefly: (1) There is ample energy in the world for our logistical task; (2) The technical problems of converting solid fuels, such as coal, to liquid fuels have been solved; (3) Fuel resources are fairly well scattered throughout the world; (4) The problem is not one of resources so much as it is the development and use of these resources particularly outside the United States.

Now, let me finish my observations by discussing the most important kind of energy of all, human energy. It has been said that in war morale is to material as three is to one. In production I think spirit is to raw materials as three is to one. Human energy is the keystone of the energy arch. We cannot leave it out of our logistics.

It seems to me that the challenge to develop sufficient energy to raise the standard of living of the world substantially involves a political challenge. There are boundless sources of energy in the world today; our problem is to find and use them. We must bring about conditions which will appeal to men who must take great risks.

Let me illustrate the point by reference to the industry in which I work. Petroleum has been a powerful force in expanding the industrial production of the world largely because millions of people have seen in its development an opportunity for themselves. Oil is distinctly an American development. Most of the great advances which have been made in this field have been made under the leadership of free Americans. Most of the foremost petroleum technicians of the world today have been trained in the highly competitive American petroleum industry. Most of the oil in the world has been discovered by free Americans.

It is no accident that the United States with 15 per cent of the petroleum resources of the world has produced 70 per cent of the petroleum. (*Concluded on page 540*)



# Defense, International Co-operation, and Peace

## *Economic Reconstruction and Political Security Would Be Enhanced by a North Atlantic Community Fostering Peace to End War*

BY CLARENCE D. HOWE

SYMPOSIUM SPEAKER

**L**OGISTICS in war might be expressed as a science of using all available resources at the right spot at the right time, the aim being to defeat the enemy. If this definition is adequate, the purpose of the logistics of peace would seem to be to prevent, as far as may be within our power, the outbreak of a third world war — this year, next year, or any other year. If this proves to be impossible, we must of course win the next war. A complementary purpose must be to sustain and to improve the level of life among all those honestly willing to work for a free and peaceful world.

These purposes are not original, but their lack in that respect is more than made up in their urgency and importance. Since July 16, 1945, that fateful summer day when the test atomic bomb was dropped in the desert of New Mexico, we have been confronted with the real possibility that our civilization may be totally destroyed. Man may literally be hanging on the brink of his own destruction. With regard to the complementary purpose of a higher standard of living, we can ignore only at our own peril the necessity for a more widespread distribution of material benefits resulting from the present industrial revolution in this machine day. Professor Fermi said the other day: "Science must accept its social responsibilities."

Obviously, the logistics of peace demand that our defenses be strong. Your country and mine are fully aware of this requirement, and are working together in an effort to strengthen the defenses of the North American continent. Our active collaboration on defense problems commenced in the early days of the last war. The Ogdensburg Agreement of 1940 provided for the creation of a Permanent Joint Board on Defense. That was followed by the Hyde Park Agreement of 1941, which enabled us to co-ordinate our economic resources for the efficient prosecution of the war. The Permanent Joint Board on Defense is continuing to function. The Board is composed of representatives of each country, participating on the basis of equality, with the sovereignty of each country carefully respected. The purpose of the Board is to assure the most effective defense of North America. The Board is sponsoring a number of defense projects that help to build up a co-ordinated system, regardless of the boundary line that separates our two countries. The Board also has been helpful in bringing about standardization of our defensive and offensive weapons.

Canada is both a North American country and a member of the British Commonwealth of Nations, and thus is a link between your country and Britain. It has always been our object to promote better understanding between these two freedom-loving countries, and I believe that we have been helpful and can continue to be helpful, in that direction.

Although Canada is a small country in terms of man power, it has an important war potential in its surpluses of food and strategic minerals which contributed no small part to the winning of the last war. Since the war ended, Canada has been in the midst of a period of unprecedented expansion. Our already great surpluses of copper, nickel, zinc, and lead are being enlarged by new discoveries, particularly in our northern territories. During World War II, Canada furnished about 40 per cent of all aluminum used by the Allies, and even this great production is proving insufficient to meet current demands, and is in process of being expanded. Our already considerable production of uranium is being augmented by new discoveries. Our economy has been deficient in iron ore and in petroleum. Here again, new properties are being developed, which will shortly make us an exporter of iron ore. The recently discovered pool of oil, that many believe to be the largest on this continent, promises to make us less dependent on your country in that respect.

During the last war, we were able to produce base metals to meet all the demands of war, and we are in



Post-Dispatch Pictures from Black Star

Our great water powers are being developed with all speed in an effort to keep up with the growing demands for hydroelectric power which is the lifeblood of Canadian industry.



Canadian Pacific Railway Company

*The volume of commerce between Canada and the United States is far greater than that which flows between any other two nations on earth.*

better position than ever to do so now. Our water powers are being developed with all speed in an effort to keep up with growing demands for hydroelectric power, which is the lifeblood of Canadian industry. Canada is sponsoring an active immigration program, designed to populate our waste spaces. We are well aware that a population of 12,000,000 people cannot hope indefinitely to hold a territory so vast and so rich in national resources as is the Canada of today. In the meantime, we are doing our best to make it possible for countries that require to import food and raw materials to obtain both in Canada.

Your European Recovery Program would certainly seem to be a master stroke in the logistics of peace. In expressing admiration for the statesmanlike move, it may be inappropriate for me to speak comparatively of the Canadian effort towards the same end. But in proof of Canadian sincerity in supporting this great concept, perhaps you will permit me to quote from testimony submitted to your Congress by Norman M. Littell, member of the District of Columbia Bar, Washington, D. C. Mr. Littell said in part:

Almost without debate, and certainly without delay Canada, having the second strongest economy in the world, adopted its own "Marshall plan" and acted to its fullest capacity in the gigantic task of helping Europe. By the end of 1946, Canada had loaned \$1,250,000,000 to the United Kingdom, another \$607,300,000 to France, the Netherlands, Belgium and Norway, and had given \$154,000,000 to U.N.R.R.A.—a total of \$2,011,300,000. On the basis of comparative population, this would be equivalent to about \$25,543,000,000 of grants and loans by the United States, or \$33,000,000,000 on the basis of comparative national production in 1946.

Actually the United States in the same period granted and loaned about \$11,502,000,000, or proportionately less than one half of Canada's contribution.

The purpose of your Marshall Plan, as well as the purpose of Canada's postwar loans to European countries, is to re-establish world trade on a multilateral basis.

Today, there are few nations in the world able to trade with your country and pay for their purchases in goods or dollars. The same situation holds true for Canada. In spite of the World Bank and the International Monetary Fund, efforts to make currencies convertible have not succeeded. Thus many nations are being denied access to the raw materials and manufactured goods that are

essential to their well-being. Your European Recovery Program is another worth-while effort to build up the economies of European countries to a point where world trade can again flow in normal channels.

The volume of trade between Canada and your country is far greater than that which flows between any other two nations on earth. Last year, trade across our common border reached a total of over three billion dollars. You sold to Canada more than you sold to Britain and France together, and you imported from Canada more than twice the value of the goods you received from any other four countries combined. Normally, Canada imports from you far more than she sells to you, and this was particularly true last year, when we bought from you goods valued at about two billion dollars, and you bought from us goods valued at about one billion dollars. Under normal conditions, this unbalance is not serious, as we are able to settle our adverse trade balance with your country with dollars earned from surplus of exports to Britain and other countries throughout the world. It was, however, a serious matter in the period when we were selling to Britain on long-term credits and paying our trade deficit to you with American dollars. By last November, we found that our American dollar reserves in your country were being depleted at a rate that must mean American dollar bankruptcy within a short period, unless the drain on our dollar reserves could be stopped. The trend could only be stopped by adopting a program designed to restrict imports from dollar countries and expand exports that would result in dollar earnings. A Canadian program to accomplish both was introduced, which involves prohibition of luxury imports, rationing of more necessary imports, excise taxes to discourage buying of luxury articles, and an import-permit system for controlling capital goods, which is designed to stimulate exports as well as to discourage imports.

By these means we have succeeded in bringing our trade into reasonable balance, but, in doing so, we have been forced to take steps that are wholly inconsistent with Canadian policy to encourage and stimulate world trade. I am glad to say that your country has understood and accepted the necessity for our action designed as a temporary measure to enable us to continue to pay for our imports in dollars, and has placed no undue difficulties in the way of carrying out our corrective program.

We will, of course, remove these artificial restrictions as soon as our reserves of American dollars can be restored to normal. The positive side for us is that, in the future, we shall be less dependent on your country for components of our manufactured goods, which have played so great a part in our industrial production. In this difficult period, we are grateful for the full measure of friendly co-operation of your government.

The present situation, as between Canada and the United States, is typical of that between your country and the countries of Europe, and in fact between your country and other countries in all parts of the world. Such barriers can be removed only by increasing production in war-devastated countries, which will in turn make possible a better balance of trade between nations. Your European Recovery Program should do much to bring about the desired expansion of international trade in both directions.

No convenient plan springs to the mind for the logistics of peace. I do wonder, however, (*Concluded on page 544*)



# The Economic Means to Peace

## *Increased Productivity of European Industries without Restrictive Trade Barriers Holds Key to World Peace*

BY RICHARD M. BISSELL, JR.

SYMPOSIUM SPEAKER

**D**EVISING economic policies that will increase the likelihood of peace and prosperity is, obviously, not an activity that can be divided according to the geographic area under consideration. Peace and prosperity must exist over most of the world or they will not exist here in the United States. Consequently, any discussion of the economic means to world-wide peace must concern economic developments in the whole trading world. On the other hand, the United States has a special concern at this moment with Western Europe, and for this reason attention will be focused on the recovery of European countries.

Because economics affects all of us, there is a temptation on the part of those practitioners of economics to assume that all are equally well informed on economic theories and know thoroughly, for example, the reasons why a country's standard of living is of such tremendous importance. I shall not run the risk of such an assumption, however, and would like to take this opportunity to preface my address by emphasizing the reasons why economics is so major a factor in the means for obtaining and maintaining a just and enduring peace throughout the world.

In a word, the economic means to peace is important because it is a necessary condition for the attainment and continuation of peace in all societies of the world. I would like to amplify this general statement by breaking it into two distinctly separate remarks.

My first remark deals with the long-range problem. If we are to create conditions in the world for which war is less likely than it has been in the past, there must be created a world-wide economic balance, a general economic well-being, and its corresponding social tranquility which is so necessary for a just and enduring peace. But in addition to this long-term condition which can lead to economic reconstruction and recovery in the world at large, there is the more important, and in some cases the more difficult, problem of preventing the resumption of hostilities. This leads to my second remark which concerns the more immediate short-term problem confronting us. There has not been a really complete cessation of hostilities. At this moment, as we all know, we do not have peace, but merely a discontinuance of the active phases of war. The world is now divided into two hostile camps in a kind of armed truce. In such a state of affairs we see, and we clearly recognize, the danger of resumption of active warfare as a distinct possibility in the future. Our immediate problem, therefore, as contrasted to the

long-range problem, is to alter the present uncertain and unsatisfactory state of affairs and to achieve a more wholesome and encouraging world outlook.

At the moment we are primarily concerned with the short-term aspects of a viable peace. In this connection we must recognize that the social structures throughout the world have been disintegrating in recent years, and this is especially true in Europe. The social structures have been weakened by World War II to such an extent that Europe now more nearly represents a sort of political vacuum than a continent of nations, willing and able to conduct their affairs as great, independent but co-operating powers. It is necessary, therefore, to reconstruct and recover the social structures which have been destroyed or paralyzed.

At the present time, only two great centers of power exist in the world. They divide the world power, and the responsibility for peace, between them. The existence of these two powers is the source of our present danger of war. We cannot have peace if one of these powers insists on following its own nationalistic policies of aggression and expansion against the wishes of nearly all other civilized countries, or if it vetoes and opposes well-intended co-operation of the vast majority of the nations of the world.

We cannot obtain a condition of recovery, or of filling the vacuum which now exists in Europe, by tearing down either of these two great powers. Our objective must be constructive; it must be one of reviving European countries to their position of prewar power and self-reliance so that they may once again become independent nations. If, in our present program of recovery, we are able to reconstruct once more the independent nations of Europe, that in itself will be a great contribution to international peace.

The economic means for achieving peace are, however, important in the long run as well as in the short run. Recovery and reconstruction, whether of Europe or of the whole trading world, can be planned intelligently only if we know what sort of world economy can come into being and what sort of world economy we would like to bring into being. It is logical, therefore, to begin with a consideration of those factors, resulting from the war, which have produced permanent economic changes in world affairs, and to examine, as well, the long-term effect of such upheavals.

Major changes in the world's economy have taken place during the war; other important changes are still to come about. The social and economic upheavals occasioned by the war have been massive in their effect on civilizations; they have affected most directly the relations between

(The text of this article presents the substance of the address delivered at the symposium on "Logistics of Peace" by Richard M. Bissell, Jr.)

Western Europe and the rest of the world, but to some extent they have affected all nations and all parts of the world.

As one tremendously important example of the changes wrought by the war, we may cite the fact that Western Europe is already cut off from Eastern Europe, and that trade, commerce, and communication between these vital parts of the continent are virtually at a standstill. The social and political changes resulting from the war are responsible for these conditions which greatly affect the entire economy of the Europe of today. In an economic sense, we must realize that we can no longer depend upon Eastern Europe for an exchange of trade or ideas, as we could before World War II.

But although the social and political upheavals have produced their greatest economic disruption in Europe, this is not the only part of the world which has been thus scarred. When we look at Southern Asia, for example, we are forced to conclude that, although peace ultimately will be restored, there will not be the same amount or kind of trade between Southern Asia and the rest of the world as existed prior to World War II.

All over the world prices and costs have risen sharply. Here is a rather obvious economic factor which has affected relations between nations. It has had a profound effect on the relations between Europe and the Latin American countries which, before the war, carried on an extensive interchange of agricultural and manufactured products. It affects the agrarian countries and regions of the world quite as much as it affects the highly industrialized areas. So far as regards trade with Europe, part of this new situation is of course the result of present political conditions. An even greater portion, however, is the result of economic factors alone.



*Photo by Parma from Black Star*

*If we are to create conditions in which war is less likely than it has been in the past, we must create a general world-wide economic well-being in which all have sufficient to eat.*

As one result of the war, Europe has lost sources of tremendous income. It has lost this income not alone through property damage or other direct results of the war. It has also lost greatly through the political and geographical redistributions which have taken place, such as, for example, the withdrawal of the British from India. Such geographical alterations contribute to those permanent changes in international affairs which influence world recovery and affect our program of assistance to foreign nations.

The changes which have occurred within the last decade or so have rendered the economic position of Western Europe much weaker than it was before World War II, and certainly weaker than it was before World War I. In its economic importance to the world at large, and in its trading position, Western Europe no longer retains the position it held before the war.

In any foreseeable future, Western Europe must remain an exporter of manufactured goods and an importer of food and raw materials. For several reasons, however, the maintenance of this position seems certain to be more difficult for the future than it was before the war. The food and raw material producing nations of the world will be increasingly independent of the political and economic control of Western Europe. Their industrialization continued during the war and will be accelerated. The European countries have permanently lost overseas investments from which they formerly derived substantial earnings. The terms of trade have shifted in favor of food and raw material producers and against industrial producers. All of these circumstances suggest that Europe's position will continue permanently to be more difficult and that the less developed areas of the world will seek to maintain permanently an economic status quite different from that which obtained in the past.

These actual and prospective developments define the short-run recovery problem with which the European governments and our own government are now grappling. They also define the world's economic problem and give a hint as to the means for obtaining a solution. There are four tasks which must be accomplished.

First of all, it is a mistake to call the problem of rehabilitating Europe one simply of production. Great strides have been made since the cessation of hostilities in rebuilding factories, railroads, and other major factors of production, so that, of itself, production is no longer the bottleneck, or even the principal element, in European recovery. The first task is one of ending the profound trade disorganizations which have taken place as a result of the war. Trade is disorganized within European countries, between those countries and, more generally, throughout the world. Trade is disorganized both between countries and between industry and agriculture within many countries; there is wide discrepancy between production and availability of goods in the towns and cities on one hand, and the agricultural regions on the other.

The second important problem in European recovery is one of achieving social tranquility. In a very true sense, any social tranquility which is to be useful as a basis for a permanent peace must be based on sound economic considerations. This implies the necessity of reconstructing a standard of living to conform to the changed economic conditions which now exist in Europe. It is always unpleasant to have to recognize the (Continued on page 536)



# Education for Peace

## *The Primary Lesson, in Educating for Peace, Is to Consider First What We Can Do to Make Ourselves Indispensable to the Welfare of Our Fellow Men*

BY ARTHUR H. COMPTON

COMMENCEMENT ADDRESS

THERE is before us one task which is so much more important than all else that it can properly be described as the great goal for our generation. This task is to establish a stable peace. When we say, establish peace, we do not mean merely that the guns must not be firing; we mean by peace rather, "a condition of mutual confidence, harmony of purpose and coordination of activities in which free men and women can live a satisfactory life." This condition of confidence and harmony is the only stable peace. It is stable, because when people have experienced a free life with mutual confidence and harmony, they will strive to maintain that condition.

We are no longer engaged in armed fighting. But the condition of mutual confidence is not here. The purposes of nations are not harmonious. The world's activities are poorly co-ordinated toward our chosen goals. Only a few of the earth's vast population can say that they are free people living a satisfactory life.

The atomic bomb was the dramatic announcement that the time had come when wars must cease. In December of 1942 I saw Enrico Fermi perform the experiment which released the first atomic chain reaction. Atomic power, controllable, the dream of a generation of scientists, became then a reality. I telephoned President Conant at Harvard in our extemporaneous wartime code: "The Italian navigator has just landed in the New World." Less than three years later two bombs fell on Japan. They put a sudden stop to a tragic war. But they did something else. They brought fear, too. It was clear that our moral stature must grow before we could safely play with atomic fire. "Modern man is obsolete," was the striking phrase of Norman Cousins, describing how the advances of technology had made out of date the approaches to our social and political problems that in a preatomic age had seemed good enough.

Can we learn to live together before these great new powers overwhelm us? This is the great question. It is a challenge to our power to learn, to the forces of education. If another major war comes, our present efforts to rebuild our stricken world will have been fruitless. Instead will come disaster, and the dashing of our hopes for the future. This the world must know. We must educate men and women so that they will choose freely the path to peace. We must learn to live in peace or civilization cannot survive. Education for peace is thus the first task of the atomic age.

Just what is it that we and the world must then learn? We have tried to interpret the needs of the new age in terms of control of atomic energy. Such control is important, but the reorientation required by the new conditions symbolized by atomic energy are vastly more fun-

damental. We need a change in heart. What is this change of heart? It is that no choice is now safe except as it is based upon the common good of man. There may have been a time when men could afford to be selfish, when one might trust that by following his own interests the good of all would result. It is now no longer possible for us to thrive unless those around us share our prosperity. As individuals our growth depends upon the possibilities of the community of which we are a part. Our nation's welfare similarly depends on the healthy life and co-operative spirit of our neighboring nations. To such an extent has this become true that the most important element in national safety is no longer a nation's ability to repel an invasion. Its basic safety against attack now demands rather making the nation's services so valuable to its neighbors that, in their own self-interests, they cannot afford to fight it.

The primary lesson in educating for peace is thus to consider first, what we can do to make ourselves necessary to the welfare of our fellows. The admonition that "the greatest among you shall be the servant of all" is no longer merely a guide to the satisfying life. In the atomic age it expresses for nations, as well as individuals, the condition for survival.

The historical setting is favorable for the establishment of a lasting peace. In the period between World Wars I and II, James Harvey Robinson, Columbia University's eminent historian, in his book, *The Human Comedy*,\* traced the trends observable through history that are working toward lasting peace. He concluded that at the time of his writing (about 1933) there was a reasonable chance that no major war would again occur unless some tragic accident should happen. Such a tragic accident did happen in the form of Adolf Hitler, a megalomaniac blind to spiritual values, and backed with the might of one of the world's most powerful nations. Similar views were being expressed at the same time by that great prophet of human destiny, H. G. Wells, and somewhat more cautiously by such scholars as E. P. Cheney, who was able likewise to identify the peaceward trends through history's long ages.

The fact that a great war followed upon these predictions does not alter the validity of the arguments. It means only that we must once again strive to put the world in order. Once more we may fail. But the powerful forces of social evolution are working fast, and as each generation passes we are substantially closer to a truly stable peace. The question before us is whether we can now hold off the tragic disaster of another war until the forces of peace will become dominant.

\* New York: Harper and Brothers, 1937, \$3.00.

The long-time historical trend was strikingly described by H. G. Wells, when he noted that there is one organism which, in the short space of a thousand generations, has changed from an individualistic animal, like a cat, to a social animal, like a bee or ant. He referred, of course, to man. During the past few generations this evolution has proceeded at a greatly accelerated pace. With the rise of technological industry, two noteworthy demands are being made of us. The first is that we shall serve our fellows. The second is that we must receive more education so that this service will be more effective. Associated with both demands is the requirement that we learn to identify our own welfare with that of our fellows. These demands are the outgrowth of a long-time trend associated with the advance of science. They are no sudden development. Yet with the advent of the atomic age they are rapidly becoming compelling.

Let us note how co-operation among individuals and groups becomes vital in a society based upon science and technology. Such a society is necessarily made up of specialists, not only scientists and engineers, but skilled laborers, salesmen, administrators, educators, and legislators. Working alone, a single specialist cannot sustain himself. But when all their work is co-ordinated they form a society of enormous strength.

As a typical example of the effectiveness of such co-operation of a group of specialists, let me cite the wartime project for developing the method for producing the atomic bomb. At the peak of the research task, there were roughly 10,000 laboratory workers in more than 100 locations, studying different aspects of this single problem. Not only theoretical physicists and nuclear chemists were needed: Equally essential were corrosion experts and metallurgists, and haematologists and meteorologists, laboratory technicians, mechanics and office workers. No one person could be skilled in every field or understand even the meaning of the answers to the many problems. But somehow the group mind inte-

grated such specialized knowledge into the useful form of a process that successfully produced an atomic bomb. The same is true of our everyday tasks, where each of us, doctor, lawyer, engineer, businessman, teacher, housewife, is doing his or her highly specialized part in serving society, in return for which we receive what we require.

It is a major source of our nation's vitality that we have very diverse elements in our population, and highly diverse conditions of life in various parts of the country. Each group has its place among the many specialties. Because of their greatly varied skills, our society has immense versatility. We can cope with extensive changes in the conditions of life. When the efforts of all are co-ordinated toward a common objective, our society finds that it has gigantic strength.

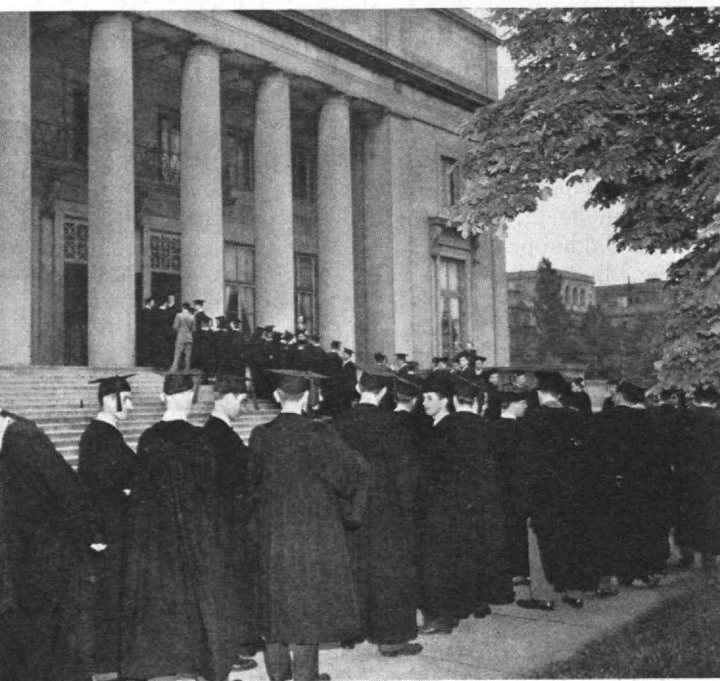
The key characteristic that makes such co-operation effective is the desire of the individuals to serve, to contribute to the welfare of society. Without this spirit of helpfulness, a person cannot be fitted happily into the modern setting. With it the other essentials follow. Co-operation in doing the world's jobs, training to do one's own task well, and adaptation to living and working with others, these will follow if we are driven by the desire to help each other. It is this desire to serve, to contribute to the welfare of society, which is likewise the first essential for building peace.

Similarly we observe a rapidly increasing requirement for training and education to do the tasks needed by the modern world. The achievement of our nation in winning the recent war is typical. Victory came not only because of brave fighters in the field, but also because of the skill of millions of workers, the knowledge, ability, and experience of many technical men, and the administrative ability of our industrial and military leaders.

It is only in the modern era that formal higher education has been available or, for that matter, has been wanted by more than a small fraction of the population. For the past 80 years the college attendance has approximately doubled every two decades. Thus, my father was one of about 75 of his age group in the United States who attended college. My son, now in college, is one of about five. To compete in the modern world, more people need more training. It is not technical training only that is required, though this is vitally necessary to win our wars and to perform the essential tasks of peace. In a democratic society that is forced into world prominence, our citizens, as well as our leaders, need to understand both their own problems and the human needs of all the nations. If this democratic society is to compete successfully with dictatorial civilization, it must likewise develop leaders of outstanding professional competence, dedicated to honorable action in the interest of human welfare.

The pressure for more training and education thus applies at all levels. Automatic machinery performs an increasing number of routine jobs. The demand for skilled mechanics to make the machines is increasing, while that for unskilled labor falls off. The growing complexity of society multiplies rapidly the demand for all kinds of persons trained to keep the work co-ordinated. These range from filing clerks to administrators. There is an acute shortage of those whose over-all view is adequate to guide wisely the growth of an industry or community.

This is why more students want more extensive education. We are beginning to realize that our strength lies in the many millions of our citizens who are working



*Cap and gown are the order of the day for graduates of the Institute shown here assembled before Walker Memorial for their baccalaureate sermon.*



efficiently and loyally at the nation's tasks. Widespread education, encouragement of each individual to seek for the place in the game where he can play best, opportunity to gain competence and to earn recognition and a decent living — all these have helped to strengthen our society. The welfare and strength of a nation demand that all possible effort be given to enable and encourage every one of its citizens to contribute his best to the needs of his community. This means increasing education.

That the amount of education is rapidly increasing is thus evident. It is not so clear, however, that education and peace go hand in hand. One recalls that Germany, in 1930, had perhaps the highest level of education of any major nation. Yet that was where a new World War began. In Germany the trouble seems to have been primarily a failure to understand spiritual values. Culture there was of a kind — the study of the beauties of art and music, a search for joy through health and sports, a search for knowledge, especially that of a practical type. Yet there was a subordination of the individual to the state, failure to recognize that the value of the state itself is only that of the persons who compose the state, and inability to see that persons are of value to each other because all are precious in the sight of their divine Father. It was basic blindness and error on such spiritual truths as these that made German education so vastly damaging rather than helpful to the world. With clearer insight as to the value of persons, Germany would have sought to solve her very real economic problems by putting her extraordinary productive powers to use in supplying the needs of her neighboring nations and would have thus won their co-operation. Instead, Germany attempted to force her neighbors to become her unwilling servants, and thus caused catastrophic conflict.

The fact is that during the past two or three generations the United States, while retaining its willingness to fight to defend its freedom, has completely lost intersectional antagonisms of a potentially warlike type, and has developed an ardent desire to avoid war with other nations if this is consistent with our own freedom and security. During the same period, Europe, at least those of her nations controlled by small groups of "leaders," has retained its warlike character. Is this difference perhaps ascribable to the fact that in a dictator-controlled nation the people are taught that their highest duty is to the state, whereas in our democracy we are taught that government is "for the people" and that the duty of the responsible citizen is to see that his fellow citizens have the best possible opportunity for free development? In any case, it is clear that education for peace means learning that the welfare of each lies in the welfare of all, a lesson that, in an age of technological industry, seems compellingly evident.

The evolutionary law of survival of the fittest applies to societies, as well as to individuals. According to this law the society of the future will inevitably advance along the lines of co-operativeness, concern with service for the common welfare, and education to do one's tasks effectively. It is because of the sure growth of these peace-producing forces that one has confidence in the ultimate dominance of peace and elimination of war. Our task is to foster these developments so that they will become dominant before another more major war can come.

The grand strategy for establishing peace is essentially simple. First of all, by political adjustments and by

military force, if necessary, we must prevent developments from occurring that will lead to a new war. Second, we must foster the growth of the forces that are working toward lasting peace. If our generation is successful in this effort, there is a high probability that war may not return for a long time, and that mankind will have the opportunity for developing the way of life that it wants.

This approach to peace can be described as a three-point program. The first task is to maintain the military defenses required that we may deter the use of armed might in solving international disputes. Second, political adjustments must be sought that will encourage the development of world society through the free flow of goods, of services and of ideas, and the travel of people. Third, the peoples of the earth must learn to know and understand one another, so that men will be encouraged to supply each other's needs and to seek each other's help rather than to master or destroy each other.

For each point of this program, education is essential. Thus, first, only by thorough understanding of our changing world can people know that it is no longer possible to gain a better life by waging a victorious war. Nations do not start wars when they expect to be defeated. War has now become so dangerous that even the victor must expect to be badly hurt, whence victory has little meaning. Policing a warlike world to prevent the outbreak of fighting is the world's job, not that of any single nation. Yet, as long as so much of this responsibility is in our hands, I am among those who believe that full military preparedness is an essential safety factor in preventing the outbreak of war. The sooner the world can be educated to assume the responsibility for policing itself, the sooner can our nation be relieved of the unwelcome role of world protector which perforce we must now play if immediate threats to freedom are to be averted.

If, in the second place, a peace-producing political pattern is to be established, the world's peoples must learn why it is that certain large areas, under the changing conditions of the modern world, have grown into peaceful social units while others have been breeding grounds for war. We have noted that the United States is a typical large area in which intersectional hostilities have become unthinkable. Under the drive of industrialization, Europe, on the other hand, has become perhaps even more warlike. Why? Is it, as we have suggested, because we concern ourselves with the welfare of persons rather than of political entities in our democratic form of government? Is it because the absence of barriers at state boundaries, good roads, and automobiles, permit widespread travel and commerce to weld our people together? Is it simply because the only armed strength is under control of the nation as a whole? Whatever the reasons, these should be studied and learned and taught, so that the world may know what it is that makes a society peaceful. On such a subject the people of all nations need reliable information, not propaganda. Ignorance or error in designing a social system is far more dangerous to mankind than ignorance or error in the assembly of an atomic bomb. In the study of the forces that lead toward peace, and of the tensions that breed war, is a problem worthy of the world's most competent scholars. Teaching the world of their findings and devising ways to build these findings into its political, economic, and cultural life are our great educational and organizational tasks.

Third, and most important, (*Continued on page 530*)

# The Urge for a Better Life

*Those with a Record of Having Done Creative Tasks Well  
and of Having Given More Than Was Expected of Them,  
Are the Persons for Whom the Greatest Demand Exists*

BY KARL T. COMPTON

VALEDICTORY ADDRESS

IT is my honor to be the first to address the Class of 1948 as Alumni of M.I.T. It is even more an honor for you to bear, henceforth, the name of this great institution. You have earned your right and demonstrated your fitness to bear the M.I.T. trade-mark, and we have confidence that you will further enhance the good reputation established by your predecessors throughout the 80 years since the first graduating class, and throughout the 50 years represented by the Class of 1898 which shares with you the honors of this day. I should like to discuss, rather informally, some thoughts about education and related things which have recently been running through my mind.

A small group, representing the professional fields of theology, law, medicine, business, and engineering, met at Buck Hill Falls, Pa., to exchange ideas on the subject of professional education. In one of the sessions, a very strong case was made by a biologist for the thesis that the basic motive back of education, and in fact back of everything else in life, is the "urge to live." In other words, the struggle for survival is the first law of life. The biologist pointed out that this is true not only of people, but of every type of living organism, with or without conscious effort. When grass is cut, it keeps on growing. When a tree is injured, it develops a protective scar tissue and heals over. So does a cut finger or a broken leg. Nature is prolific in its scattering of seeds, spores, and sperms in order that the various species shall survive. And almost incredible are the struggles for survival by people lost in the woods, shipwrecked or imprisoned, or, by animals which are victims of danger or disaster.

Truly the urge to live is basic; it is a feature of biological behavior of cells and tissues, of the instinctive reactions of all animals, and of the conscious planning and effort of human beings. But though mankind shares with all other forms of life the urge to live, there is another urge which seems to be peculiar to man and to distinguish him from all other animals or other living things. It is the urge to live better.

Consider how true this is. The habits of plants or fish or insects or animals do not change, except for occasional minor adaptations to changing climate or environment. Ants have continued to build their ant houses, and birds their nests without change, species by species, for as long as we can trace the records. It is man alone, of all living things, who has consciously and to a staggering degree changed his ways of living. He has changed his food, clothing, and shelter; he has changed his methods of transportation and communication; he has changed his ethical and social codes of conduct; he has changed his organization for group living. Man has employed imagi-

nation and logic, he has invented, he has developed new skills, he has created new concepts of values, he has manipulated the materials and forces of nature for his purposes. Basic to all these things is man's urge to live better, supported by his capacity to analyze and to evaluate and through imagination to project his evaluated ideas into the reality of the future.

The record of achievement of the better life is found in the relics of the Stone Age, the Bronze Age, the Age of Steel or of Power, and the beginnings of perhaps the Atomic Age. The record is found in our books of history, philosophy, and science, in our laws and government, in our Bible and all the religious codes and concepts. So, without further belaboring the point, I simply restate my thesis that the distinguishing characteristic of man is his urge and capacity to live better. Let me comment on four aspects of this urge to live better: the urge for an education; the urge for a job; the urge to create; the urge to serve.

You came to this institution undoubtedly because you and your parents believed that the education gained here would enable you to live better. The advantage to be gained from education is viewed differently by different people. For example, it may be the "thing to do" in the group to which you belong. This is not a very high motive, but it is quite as legitimate as it is old. Benjamin Franklin wrote of the students whom he observed in one of the great old colleges, who had no particular talent or ambition, but who attended the college because it was "done" in their social circle. He said of them that he was concerned over the future of the young men who went forth from this "famous place, for they were unable to work, ashamed to beg, and to live by their wits was impossible." No, this motive is not of the highest, but this can be said for it: it can lead to an education and it can lead to exposure to great personalities, great ideas, great opportunities and to the firing of high ambitions.

Some people go to college because they hope this will raise them to what is often regarded as a higher position in society. By going to a trade school, an unskilled lad fits himself to become a skilled technician or a foreman; a farm boy goes to college and postgraduate school and may become a doctor or a teacher. Several years ago it was a fact that more of the scientists whose names had been added to that year's edition of *American Men of Science* had been born in Iowa than in any other state. The reason was that Iowa is a well-to-do agricultural state. The farmers could afford to send their children to college. To them a white-collar profession, like science or medicine or teaching, was a natural and understandable step up the ladder of their urge for a better life. Among



the city-born boys of the East, on the other hand, raised in a hectic environment of buying and selling, the urge was relatively stronger to go into business to make money, and a larger proportion did this.

A third motive for going to college is this desire to make more money. This again is a legitimate and very common motive. The dollar-sign path is generally well marked, at least statistically, for frequent studies are published which show the average earnings, one or five or twenty years out of college for the doctor, lawyer, engineer, teacher or what have you. Often such studies also show the average financial advantage of taking a master's degree or a doctor's degree.

A striking example of this motive occurred in the 1920's, when fortunes were being made on paper at a great rate by buying and selling of stocks. Most people did not stop to realize that true wealth comes from production of desirable goods, and not from progressively raising the price tags. During this era, students in our colleges flocked into the departments of economics because of their notion that some knowledge of economics would insure quick wealth. This rush into economics created a major problem in college administration, but the problem vanished when the bubble burst with the depression. Now many students study economics, or business administration, or engineering, or law because they see in these professions an increased ability to earn a good living.

A fourth reason for going to college is enthusiasm for a particular career or line of work. Sometimes this is definite even from the start, like young John who has the dream of building airplanes, or Jim who has wanted to be a chemist ever since his father got him that chemistry set for Christmas. But more often the young man or woman discovers his talent and enthusiasm while he is in college, with opportunity to see and explore new activities.

Such was the case with Charles A. Stone and Edwin S. Webster who graduated from M.I.T. in 1888. They were intrigued by that new branch of applied physics which was just coming to be known as electrical engineering. As a senior thesis they made a joint study of a new type of alternating-current transformer. They became enthusiastic over the idea of establishing themselves as a firm of consulting electrical engineers, and sought the advice of their distinguished professor regarding their idea. He approved the idea, but advised against their both going into the business for, he said: "There may be enough electrical business in the United States to keep one consulting engineer busy, but certainly not enough for two!" But they had faith and enthusiasm, and went ahead; their business grew and prospered; they became pioneers in public utility construction, operation, and financing. The firm of Stone and Webster is an example of the power of education fired by the spark of enthusiasm, when operating on a high quality of natural ability.

Some of you have had to make great sacrifices to satisfy the urge for education which is receiving recognition in these exercises today. That you have succeeded is all the more reason for satisfaction and confidence, and I often think of the many cases in which the overcoming of great obstacles has seemed to be an essential part in the building of a very successful career. There is something about overcoming obstacles which strengthens character and purpose. I think of two men who have greatly influenced my life and whose careers were re-

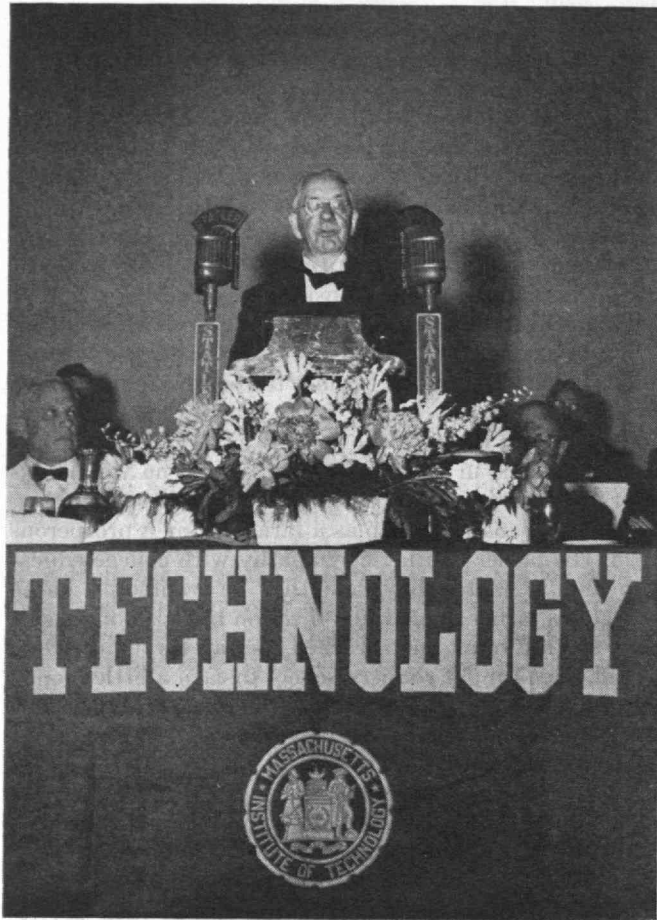
markably similar. One of them came as an immigrant from the Isle of Man in his early teens and went to the great new territory of Minnesota just then opening up. He secured a job as a druggist's clerk and studied by himself in spare time. When he heard of the opening of the new University of Minnesota and the fact that tuition was free he walked some 30 miles and landed in Minneapolis with less than \$4.00 in his pocket and applied for admission to this new institution. He passed the entrance examinations and subsisted by securing a job of tending the furnace and milking the cow of a citizen living in the suburbs. He slept on a cot near the furnace for warmth and used the furnace to cook his meals, which consisted of baked beans, with tomatoes for variety, and milk from the cow. He became a great scholar and a great influence in the community, where he was in his later years revered as a patriarch and a philosopher.

The other man grew up as a farm boy on a prosperous farm. His father had little sympathy with college education and when the boy said that he wanted to go to college his father offered no objection but also offered no help, so this young man worked his way through normal school, then taught country school to earn a little money to go to college, and in college he practiced the same economy as my other friend by subsisting on a diet of baked beans, with tomatoes and milk for balance. He graduated *summa cum laude* and went on for graduate work and became professor, dean, and acting president of the institution from which he had graduated.

The characteristics of both of these men were an indomitable urge for an education, pursuit of their profession because of its intellectual satisfaction, and their continual attitude toward their work as a service to the institution with which they were connected and especially to the young men and women who were their students, and not as a career for personal gain or glory. The result was that many thousands of young people look back with gratitude and reverence to these two men who did so much in the molding of their careers.

Consider, now, another aspect of the urge to live better and one which is probably vividly in the minds of many of you at the present time. I refer to the urge for a job, or perhaps I should say the urge for a better job. Offers of jobs are coming in to the students graduating this year, to some of them in large numbers and to others in not such large numbers. Many students, on their side, are applying for jobs. All are wondering about their careers and how they will turn out. What about a job? Perhaps one can paraphrase the famous statement: "Some are born great, some achieve greatness, and some have greatness thrust upon them." We can paraphrase that with reference to people and jobs: some are born with jobs (through their fathers), some earn their jobs or apply for them, and some have jobs thrust upon them.

Over and above your qualifications as a candidate or applicant for a job, there is always a considerable element of luck. Just to give you some comfort or feeling of confidence in case you happen now or later to be discouraged over the prospects for a job, let me refer very briefly to my own experience in this respect. Shortly before I had secured my Ph.D. degree at Princeton I began looking around for a job for the following year. No offers had come my way and so I got the names and addresses of presidents, or deans, or physics department heads in 40 American colleges or (*Continued on page 546*)



*Edward S. Chapin, '98, Secretary of the 50-year Class, presents his class gift at the Alumni Day Banquet.*

**H**OPE and confidence for the future — of Technology, of the nation, and of the world — loomed large in the minds of those taking part in Alumni Day, with its manifold associated festivities, this June. It was appropriate, therefore, that this spirit of guarded optimism be the underlying note of the many addresses and events, beginning with the baccalaureate sermon on Thursday, June 10, and ending with the final partings after the annual banquet on Saturday evening, June 12. It was reflected by President Compton's banquet address in which plans for a greater Technology were announced for the first time, and it was brought into sharp focus by the Alumni Day symposium, appropriately entitled "Logistics of Peace," emphasizing the need for taking aggressive, constructive action in the waging of peace.

Thoughtful and stimulating consideration of the many demands which are imposed by the complex, interdependent life, which is one product of science and technology, was enunciated in the addresses about which ceremonies centered. In chronological order, Everett M. Baker, Dean of Students, stressed the need for winning freedom through the assumption of responsibility and called for a return to religion in his baccalaureate sermon; Arthur H. Compton, Chancellor of Washington University, called for service to one's fellow men in the commencement address to graduates; another brother of the outstanding Compton family emphasized the need for creative tasks ably performed by graduates in the valedictory address which President Karl T. Compton delivered to the Class of 1948; Robert T. Haslam, '11, of

Standard Oil Company of New Jersey, and first of three symposium speakers, took a buoyant view of the world's energy resources; Clarence D. Howe, '07, Canadian Minister of Trade and Commerce, foresaw continental peace and security through co-operation between Canada and the United States; Professor Richard M. Bissell, Jr., recently transferred to the European Recovery Program, outlined the economic basis for a viable peace in Europe; and finally, in his banquet address, President Compton announced plans for expanding the facilities and operations of M.I.T. It is The Review's pleasure to be able to print, elsewhere in this issue, the full text or comprehensive summaries of these addresses.

At the President's Dinner for Honorary Secretaries at the Brae Burn Country Club on Friday, June 11, repre-

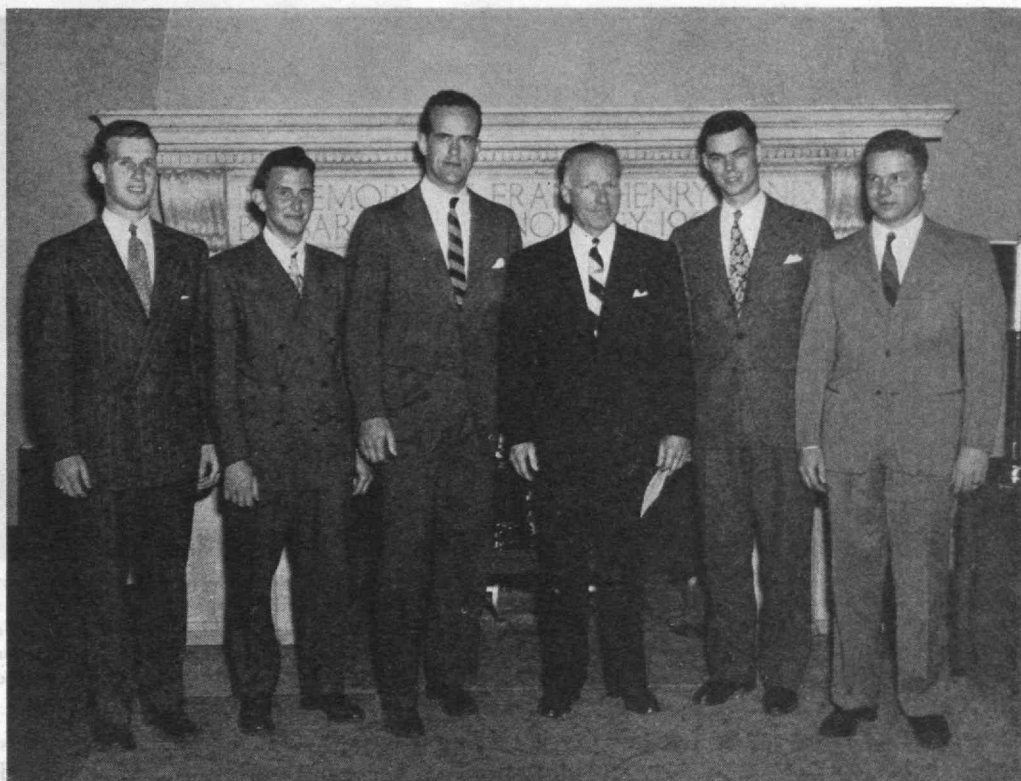
# ALUMNI DAY - 1948

sentatives from five foreign countries, as well as 50 secretaries from various parts of the United States, were present, in addition to 21 officers of local alumni clubs and about a dozen members of the M.I.T. staff. In good spirit these men went to work to discuss the important problems of liaison between the Institute and freshmen planning to enter M.I.T. each year, and to listen to informal and stimulating talks by Professor B. Alden Thresher, '20, Director of Admissions, and James R. Killian, Jr., '26, Vice-president of M.I.T. At the evening dinner, President Compton and Paul M. Chalmers, Adviser to Foreign Students, were honored for their work on behalf of foreign students studying at the Institute. Acting on behalf of King Haakon VII of Norway, Bjarne Ursin, Norwegian Consul in Boston, bestowed the title of knight commander of the Order of St. Olaf upon Dr. Compton, and made Professor Chalmers a knight in the same Order.

While wives and guests held their own dinner, and later attended the Boston Pops concert at Symphony Hall, approximately 1,000 Alumni attended the Stein-on-the-Table Banquet, and filled to overflowing Boston's largest ballroom in the Hotel Statler. Because of lack of space, the Alumni Association reluctantly was forced to forego its practice of earlier years of inviting members of the graduating class to attend the banquet as its guests. However, at the Senior Banquet at the Hotel Continental in Cambridge on June 9, members of the graduating class received from the Alumni Association the 1948 commencement steins, designed by Henry B. Kane, '24.



Prominent among those taking part in Class Day activities were (left to right): John T. Toohy, '49, President of the Junior Class, to whom the class ring was transferred; William R. Zimmerman, '48, Permanent Secretary-Treasurer of the graduating class; J. David Cist, '48, Permanent President of the graduating class; William L. Stewart, Jr., '23, 25-year speaker; George K. Parmelee, '48, President of the Senior Class; and William B. Maley, '48, chairman of Senior Week.



As President Compton made his annual report to Alumni at the banquet, those who had labored long and arduously to make Alumni Day, 1948, an outstanding event in M.I.T. history, could relax and breathe a sigh of satisfaction for a task well done.

#### . . . Baccalaureate Service . . .

An unexpected note of sadness was injected into the baccalaureate service held in Walker Memorial on Thursday morning, June 10. Joshua Loth Liebman, Rabbi of Temple Israel in Boston, had been selected to address the graduates on the topic "Facing the Future: Hope and Challenge." A recent illness, coupled with overwork, took its toll, however, for Rabbi Liebman was stricken with a fatal heart attack on June 9.

In delivering the baccalaureate address, Everett M. Baker, Dean of Students, expressed deep loss in the sudden, tragic death of Rabbi Liebman in the following words: "When he graciously accepted the invitation of your class officers to speak to you at this occasion of your baccalaureate service, we all rejoiced that we would have this opportunity to meet and hear so distinguished a citizen of our nation, so friendly a neighbor, so wise a counselor, so prophetic a preacher, and so popular an author."

Instead of speaking on the theme selected by Rabbi Liebman, Dean Baker stressed the fact that freedom must be won at the price of responsibility, and reminded his audience that responsibility must be assumed as well as given. Another major point in the address was that whatever one calls it, religion is the highest and best that each of us knows; it is the "anchor chain which holds us fast to our ideals, when tides of disappointment would sweep us out upon a fog-covered ocean of despair."

#### . . . Class Day Exercises . . .

As chairman of Senior Week, William B. Maley, '48, opened the activities of Class Day with an address of welcome, and then called upon William L. Stewart, Jr.,

'23, who, as 25-year speaker, had words of encouragement for the graduating class.

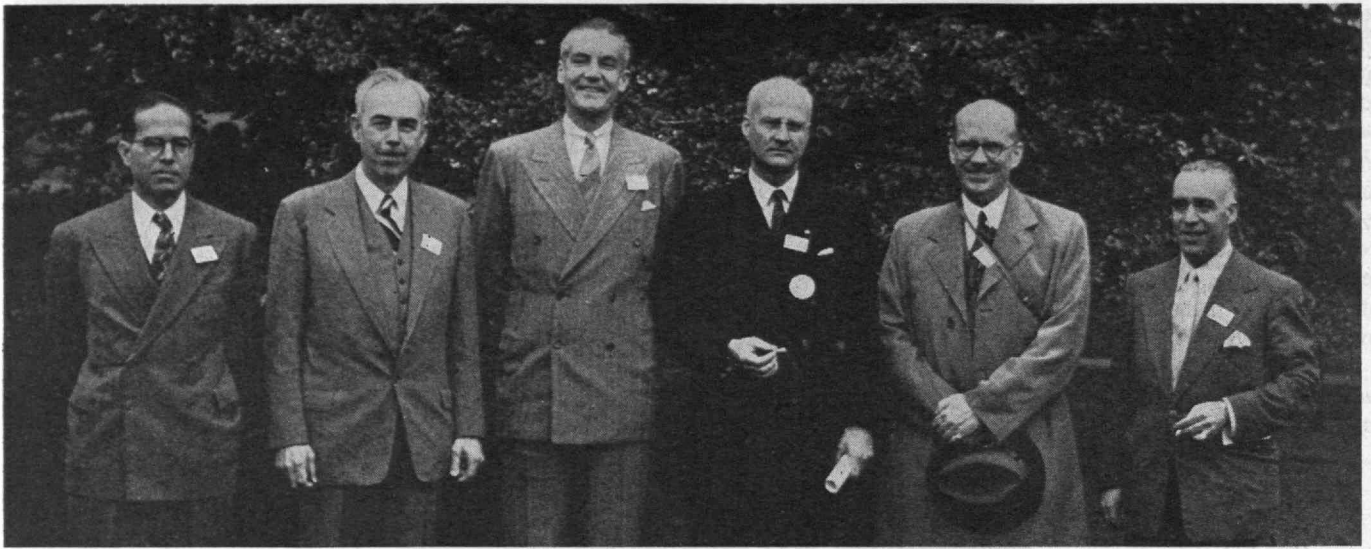
Next, Professor Charles-Edward A. Winslow, '98, made his address for the 50-year Class, emphasizing differences between the hopes, aspirations, and general outlook of the present graduating class and that, half a century ago, when Dr. Winslow left the Institute. In part, Dr. Winslow said:

The history of living things — and here biology has something to offer us — teaches something more inspiring than what we are often inclined to take with us from the teachings of the physical sciences. The physical sciences teach us that the world is gradually running down; that we are ultimately headed for a universe in which all is lifeless and static. But the biologist has a more inspiring story to relate. Biology teaches us that cells grow and become more and more complex; that from the lowly single-cell creatures, such as the amoeba, life, and living things become more highly developed and specialized, more complex. The urge for the more highly specialized and complex finally culminates in human beings as the present pinnacle of life on this world. There is something extraordinarily encouraging and interesting in these facts of biology. Whatever happens, there is something worth while going on in the constant struggle and development of more interacting and interlocking agencies.

#### . . . Stratton Prize Oration . . .

As Stratton prize winner, Werner H. Gumpertz, '48, made an exceedingly able oral presentation of a paper on "Thrust Problems in Damaged Arch Bridges." His paper dealt with certain engineering problems which he had encountered in Germany during World War II, and outlined emergency repair measures which had been put into operation by American occupation troops to aid in the reconstruction of Germany.

In traditional ceremony, representing the transfer of administration of student government from the graduating class to the new senior class, George K. Parmelee, Senior Class President, transferred the Beaver Class Ring to John T. Toohy, President of the Class of 1949.



Five foreign countries were represented when President Compton gave a dinner for the M.I.T. Honorary Secretaries who work with the Admissions Office and serve as ambassadors of information and good will in acquainting incoming freshmen with the Institute. Photographed during the outdoor luncheon in Du Pont Court (in usual reading order) are: Antonio H. Rodriguez, '21, of Havana; Paul M. Chalmers, Adviser to Foreign Students, and awarded the cross of the Order of St. Olaf in recognition of his work on behalf of the Institute's foreign students; David A. Shepard, '26, of London; Harold R. Bjerke, '23, of Oslo; William F. Rivers, '26, of Calcutta; and Arturo Marques, '27, of Montevideo.

J. David Cist, Permanent President, made the presentation of the gift from the Class of 1948. He announced that the graduating class had decided that its gift should take the form of an athletic trophy, to be awarded annually to the outstanding M.I.T. athlete of the year. The trophy is to remain the permanent property of the Institute, where it is to be displayed, but each year the winner will receive a replica of the trophy awarded to him. In gratefully accepting this gift, President Compton expressed his belief that the trophy was a wise, and certainly a most welcome, gift.

### ... Westgate Skit ...

As has been the custom for many years, the graduating class staged an entertaining skit as its application for admission to the M.I.T. Alumni Association. With the

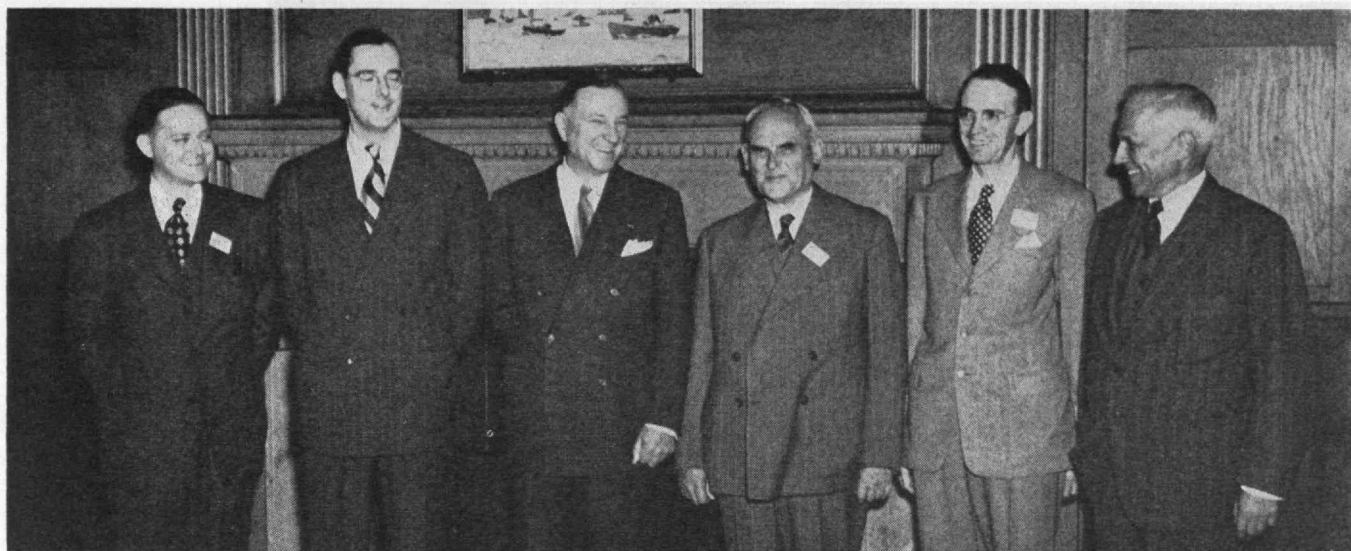
help and guidance of Professor William C. Greene of the Department of English and History, the skit was written and planned by Stanley J. Adelstein, '48. William E. Katz, '48, wrote the music, and Philip R. Macht, '48, wrote the lyrics. The skit depicted life at Westgate and emphasized the difficulties which were encountered by married veterans in conducting their studies at the Institute while simultaneously carrying out the responsibilities of normal family life.

Upon conclusion of the skit, Raymond H. Blanchard, '17, President of the Alumni Association, presented the M.I.T.-1948 banner to Mr. Parmelee in token of acceptance of the graduating class into the Alumni Association. Mr. Blanchard also presented the Class with a copy of the recently printed *Alumni Register* and a copy of the model class constitution prepared for use by



The registration desk, in the lobby of Building 10 under the large dome, was turned into a beehive of activity on the morning of June 12 as more than 1,000 Alumni registered for the events of Alumni Day. Some 1,100 attended the outdoor luncheon under canvas in Du Pont Court, approximately 650 attended the afternoon symposium, and 1,000 were in attendance at the evening Stein-on-the-Table Banquet at Boston's Hotel Statler.





The afternoon symposium "Logistics of Peace" was one of the most attractive features of Alumni Day. Photographed (left to right) in Walker Memorial just prior to the addresses are: William W. Garth, Jr., '36, chairman of Alumni Day; Professor Richard M. Bissell, Jr., Staff, on leave as assistant director of the European Recovery Program, who spoke on "The Economic Means to Peace"; Robert T. Haslam, '11, Vice-president, Standard Oil Company of New Jersey, whose topic was "World Energy and World Peace"; Clarence D. Howe, '07, Canadian Minister of Trade and Commerce, who gave the address on "Defense, International Co-operation, and Peace"; Professor Norman J. Padel-ford, symposium chairman, and President Karl T. Compton.

those classes which wish to adopt it. He commented also that with the graduation of the Class of 1948 the Alumni of M.I.T. had increased from approximately 40,000 to more than 41,000 persons.

#### . . . Commencement Exercises . . .

Graduation exercises were held in Boston's Symphony Hall on the morning of Friday, June 11, and were notable for at least three reasons. First of all was the fact that two of the well-known Compton brothers took part in the ceremonies: Karl Taylor Compton gave the valedictory address, and his Nobel Prize-winning brother, Arthur Holly Compton, gave the commencement address, both of which appear in this issue of *The Review*. A second notable feature was the fact that with 905 candidates receiving 910 degrees, this was the largest class yet to be

graduated from the Institute. Among those receiving degrees were 65 candidates for the doctorate, 233 for master's, and 607 for bachelor's degrees. Listed among the graduates were 14 women students.

In his presentation of degrees, President Compton had an unusual word of commendation for Jules S. Levin, '48, who, during his four years at the Institute, managed to achieve a perfect record of *H's* in all subjects which he studied.

#### . . . Aerial Shower . . .

In conjunction with its reunion luncheon, the Class of 1898 staged the first Aerial Shower in history on Friday, June 11. At 1:15 P.M., as graduates were returning from commencement exercises, a seaplane landed in the Charles River Basin and taxied to the M.I.T. Sailing Pavilion

The first Aerial Shower in history took place on June 11 when the seaplane of Luis deFlorez, '11, landed in the Charles River Basin, tied up at the M.I.T. Sailing Pavilion, and Lester D. Gardner, '98, presented Mrs. Compton with gifts from the world's air lines in recognition of the part which M.I.T. has played in the development of world aviation. At the Sailing Pavilion (left to right) are: Luis deFlorez, '11; Lester D. Gardner, '98; Mrs. Compton, and President Compton.





*Luncheon of the Class of 1898 followed the Aerial Shower on June 11. At the head table (in reading order) are: Mrs. Arthur H. Compton; Major General Frank A. Keating, Commanding Officer, First Service Command; Lester D. Gardner, '98; Mrs. Lester D. Gardner, and President Compton. Gifts presented to Mrs. Karl T. Compton are exhibited on the table in the foreground.*

where a group of 50-year graduates were awaiting the pilot, Luis deFlorez, '11, and his passenger, Lester D. Gardner, '98. Upon landing, Mr. Gardner presented to Mrs. Compton numerous gifts from air lines in all parts of the world, in recognition of the Institute's active role in the development of world-wide aviation.

Although not officially a part of alumni activities, the annual dinner for the Institute's Honorary Secretaries was held on the afternoon and evening of June 11, as already recorded.

#### *. . . Alumni Day, 1948 . . .*

Although the weather was cloudy and overcast, continuing Boston's previous six weeks' trend, the activities of Alumni Day were in no way dampened, either figuratively or literally. Under the able direction of William W.

Garth, Jr., '36, Alumni Day Chairman, and his active committee chairmen (Edmund B. Fritz, '32, *Banquet*; John A. Hrones, '34, *Class Day*; Herbert L. Beckwith, '26, *Exhibits*; Mrs. B. Alden Thresher, *Ladies' Program*; John B. Wilbur, '26, *Luncheon*; Ralph T. Jope, '28, *Publicity*; Wolcott A. Hokanson, Staff, *Registration*; Donald Whiston, '32, *Symposium Arrangements*; Malcolm S. Stevens, '34, *Transportation*; and Delbert L. Rhind, Staff, *Ways and Means*) all activities ran along smoothly and promptly to make the day's events pleasant for all Alumni and guests.

Beginning at 8:30 A.M. the registration desk in Building 10 was open for those who had registered to pick up their tickets, to permit others to register, and to serve as general headquarters for information. The lobby in Building 7, on Massachusetts Avenue, was devoted to an instructive exhibit on world trade, travel, and communication, in keeping with the theme of the symposium "Logistics of Peace."

#### *. . . Rockwell Cage Dedicated . . .*

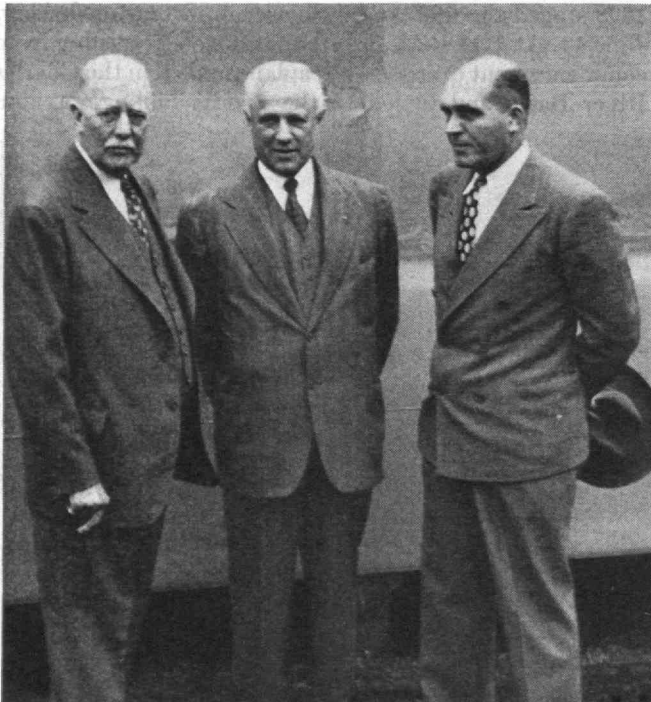
At 11:00 A.M., a new athletic cage, recently erected on the athletic field adjacent to the Briggs Field House, and west of Massachusetts Avenue was dedicated. The new cage, which will serve as an indoor athletic field for M.I.T. students, was named the Rockwell Cage in honor of Dr. John A. Rockwell, '96, who has been closely associated with athletic activities at the Institute for 50 years. The dedication address was made by President Compton, with response by Dr. Rockwell.

#### *. . . Luncheon in Du Pont Court . . .*

By 12:30 queues had formed for the luncheon in Du Pont Court. Caterers ably and quickly served potato salad, chicken à la king, salmon salad, vegetable salad, cookies, ice cream, and coffee to approximately 1,100 persons who were protected from inclement weather by large canvas tents erected for the purpose.

The Class of 1923 had reserved tables seating approximately 200 to accommodate the sizable group who returned for their 25th reunion. Table service for the Class of 1898 and the symposium speakers was provided in Building 1.

After the luncheon, Alumni and guests gathered around in groups to discuss their present plans or reminisce about



*At 11:00 A.M. on Alumni Day the Institute's new athletic cage was dedicated and named in honor of Dr. John A. Rockwell, '96, who was actively associated with M.I.T. athletics for half a century. Taking part in the dedication ceremonies were: Dr. Rockwell, President Compton, and Ivan J. Geiger, Director of Athletics.*



*The Class of 1923, celebrating their graduation from M.I.T. a quarter century ago, had the largest representation at the Alumni Banquet. At one of the tables (counter-clockwise order, from opening in front) were: Stephen B. Metcalf, Myron K. Chandler, Howard F. Russell, Horatio L. Bond, John E. Burchard, John H. Zimmerman, William B. Greenough, Jr., and John J. Murphy.*



their student days while the sun attempted, with but little success, to dispel the overcast sky.

### *... Symposium ...*

By 2:30 P.M., approximately 650 Alumni and guests had gathered at Walker Memorial for the symposium on "Logistics of Peace," a title selected by Mr. Garth. Professor Norman J. Padelford was symposium chairman and skillfully introduced the speakers: Robert T. Haslam, '11; Clarence D. Howe, '07; and Professor Richard M. Bissell, Jr. More detailed coverage on this symposium will be found in the published papers in this issue.

### *... President's Reception ...*

Following the symposium, President and Mrs. Compton were hosts at an Open House at the President's House between 4:00 and 5:00 P.M.

### *... Alumni Banquet ...*

As they had done many years in the past, Alumni broke up their informal gatherings in time to be at the Hotel Statler in Boston by 7:00 P.M. for the ever popular Stein-on-the-Table Banquet. In the Technology tradition, steins bearing a new design by Henry B. Kane, '24, were available for all to take home as souvenirs of a memorable occasion. Raymond H. Blanchard, '17, President of the Alumni Association, was toastmaster.

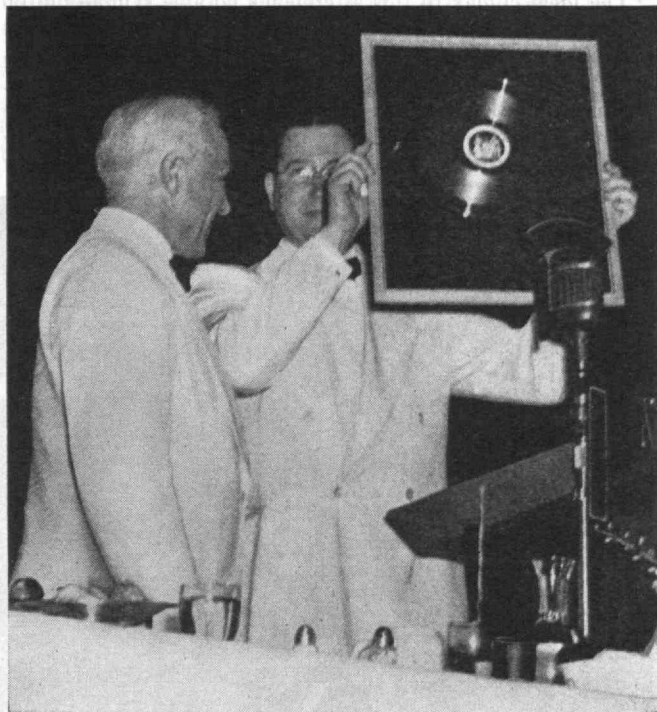
For the 25-year Class, Robert P. Shaw presented the gift of the Class of 1923; a gift of about \$70,000 for capital funds. Edward S. Chapin, '98, made the presentation for the Class of 1898; an additional fund of about \$70,000 for capital funds. President Compton accepted both gifts with appreciation.

A somewhat unusual, and for this reason all the more welcome, gift was made by the Class of 1918. Favoring a gift which would emphasize the cultural aspects of living, and which at the same time would bring permanent enjoyment to successive classes, the Class of 1918 presented a Baldwin electronic organ to the Institute. Dedicated on May 16 in Walker Memorial (where it will usually be used in Morss Hall) the new organ is portable and can be moved to any part of the Institute. The most distant contribution for this cultural addition to the Institute's facilities (in the design of which Edward M. Jones, 2-44, and Raymond P. Mork, '43, contributed) came from Zeng-Tse Wong, '18, of Shanghai.

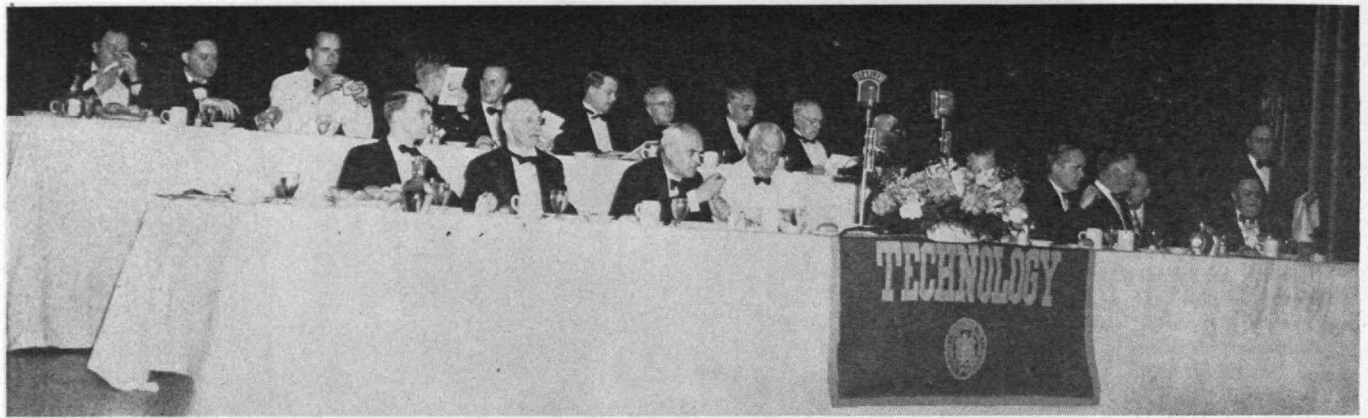
C. George Dandrow, '22, President-elect of the Alumni Association, was called upon to introduce a well-received innovation. He presented to the audience a Columbia recording of a group of medleys of M.I.T. songs made by the Dodd Singers. In the medley were included such favorites as: "Take Me Back to Tech," "A Stein Song," "Dear Old M.I.T.," and "Sons of M.I.T." Upon conclusion of the playing of this outstanding recording, Mr. Dandrow presented the original to President Compton.

### *... Honorary Membership in the Alumni Association ...*

President Blanchard then called upon Charles E. Locke, '96, Secretary of the Alumni Association, to conduct Thomas P. Pitre, Dean of Freshmen, to the stage where, at the hands of Mr. Blanchard, Dean Pitre was given a



*The playing of a medley of M.I.T. songs, recorded under the direction of C. George Dandrow, '22, President-elect of the Alumni Association, injected an additional note of conviviality during the Alumni Banquet. The original record, gold-plated and framed, was presented to President Compton by Mr. Dandrow.*



*Technology's Stein-on-the-Table Banquet has grown to such proportions that two head tables are now required to seat all who take responsibility for managing the affairs of Alumni Day. At the fore table (left to right) are: Professor Norman J. Padelford, symposium chairman; Edward S. Chapin, '98, Secretary, 50-year Class; Clarence D. Howe, '07, symposium speaker; President Karl T. Compton; Robert P. Shaw, '23, President, 25-year Class (to right of table centerpiece); William L. Stewart, Jr., '23, 25-year Class Day speaker; and H. E. Lobdell, '17, Executive Vice-president of the Alumni Association. At the rear table (left to right) are: Edmund B. Fritz, '32, Chairman, Banquet Committee; William W. Garth, Jr., '36, chairman, Alumni Day; J. David Cist, '48, President, graduating class; Dale F. Morgan, '38, Secretary, Class of 1938; George Henning, Jr., '33, Secretary, Class of 1933; F. Alexander Magoun, '18, President, Class of 1918; William A. Ready, '13, President, Class of 1913; Frederic A. Eustis, '03, Secretary, Class of 1903; Harry M. Latham, '93, President, Class of 1893; and Sanford E. Thompson, '88, Assistant Secretary, Class of 1888.*

certificate attesting to his election and induction into the M.I.T. Alumni Association, as one of its 20 honorary members.

### ... "Logistics of Operation Technology" ...

As final event of the evening, President Compton acquainted the audience with recent events at the Institute, as has been his custom since the alumni banquets have been held. His address this year was entitled "Logistics of Operation Technology" in keeping with the theme selected for the symposium. The Review is happy to present the text of the major portion of Dr. Compton's address:

The ideal climax to this afternoon's notable symposium on "Logistics of Peace" would have been the address at tonight's banquet which had been planned by your committee on arrangements to be given by the man who, more than any other, organized the logistics of our victorious war. Later, as the Secretary of State, he conceived that masterly plan for European recovery which has turned the tide of world-wide despair

and confusion into an upsurge of faith, hope, and charity among those nations which must stand together against anarchy, communism, and disintegration.

We sincerely regret that Secretary Marshall, after keeping this engagement open for several months, found that his duties of prior importance forced his declination; and that our own Lewis W. Douglas, '17, who had tentatively agreed to act as Secretary Marshall's substitute, also found that his responsibilities as Ambassador to Great Britain were too active just at this time to permit of his presence with us tonight.

Never have I pinch-hit for such distinguished speakers as Secretary Marshall or Ambassador Douglas, and your regret that this has to be so is only exceeded by my own. But I have two compensations: I can take this opportunity to express publicly our great appreciation of the fine contributions to this afternoon's program which were made by our colleagues, Professor Richard M. Bissell, Jr., Robert T. Haslam, '11, and the Honorable Clarence D. Howe, '07; and I can turn the discussion of "Logistics of Peace" into that channel which is our own greatest responsibility, namely, the role of the Massachusetts Institute of Technology. (Continued on page 518)



*Thomas P. Pitré, Dean of Freshmen, was conducted to the speaker's platform by Charles E. Locke, '96, to receive from President Raymond H. Blanchard, '17, his certificate of election as an honorary member of the M.I.T. Alumni Association. Others at the head tables may be identified from the caption and illustration above.*



# THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

## Dean of Humanities

**A**PPOINTMENT of Professor John E. Burchard, '23, as dean of humanities at M.I.T. has been announced by President Karl T. Compton. Professor Burchard, Director of Libraries and also of the Albert Farwell Bemis Foundation, succeeds Dr. Robert G. Caldwell, Dean of Humanities since 1939, who retired on July 1.

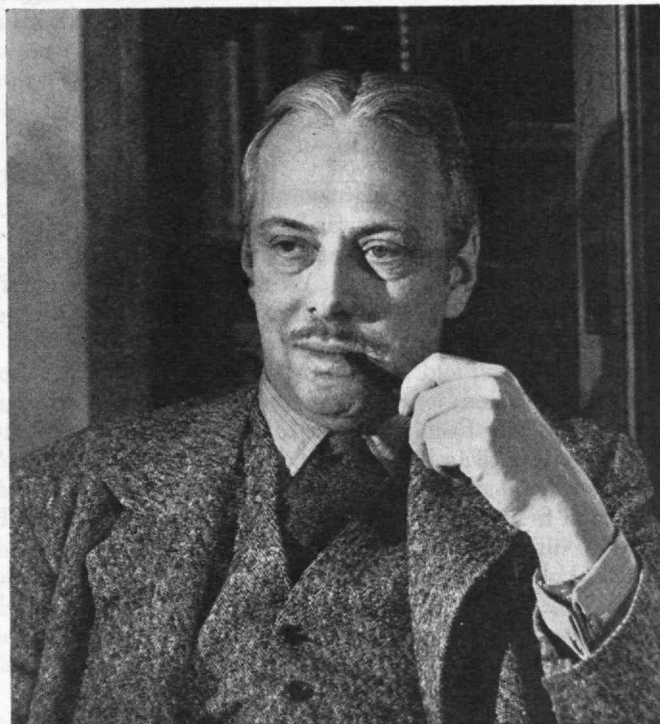
The Division of Humanities is co-ordinate with the Schools of Science, Engineering, and Architecture, and includes the Departments of English and History, Economics and Social Science, Business and Engineering Administration, Modern Languages, and the administration of the Institute libraries. The Division is also responsible for instruction in such fields as sociology, labor relations, government, international relations, law, philosophy, psychology, literature, and music and the fine arts, for both undergraduate and graduate students, and is charged with the administration of the four-year program in the humanities required of all undergraduates.

Under Dr. Caldwell's administration the program of the Division of Humanities has been expanded and enriched by the introduction of new opportunities for the wider cultural development of all students. Dr. Caldwell was formerly United States Minister to Portugal and later Minister to Bolivia. In addition to his diplomatic service, Dr. Caldwell had wide teaching experience in history, political science, and economics in universities of the United States and India before coming to the Institute in 1939.

A graduate of the College of Wooster, to which he later returned as a professor of political science, he carried on advanced studies at Princeton University which granted him the degree of doctor of philosophy in 1912. In 1914 he started a 19-year career as professor of history at Rice Institute in Texas where he was appointed dean in 1918. During the summers from 1929 to 1932 he was visiting professor in the graduate school of Columbia University, and held a similar post at the University of Chicago in 1930.

As a historian, Dr. Caldwell is the author of: *A Short History of the American People*; *James A. Garfield—Party Chieftain*; and *The Lopez Expedition to Cuba*. He is also the author of several other works on history, economics, and politics. During World War II, Dr. Caldwell served on the general advisory committee on cultural relations of the Department of State and the Office of Inter-American Affairs.

Professor Burchard was born in Marshall, Minn., in 1898. After three years in the College of Liberal Arts of the University of Minnesota, his education was interrupted by service with the United States Army Medical Corps in the American Expeditionary Forces. Upon his discharge in 1919, he entered M.I.T. from which he was graduated with the degree of bachelor of science in architectural engineering in 1923 and received the degree of master of science in 1925.



**John E. Burchard, '23**

... succeeds Robert G. Caldwell as dean of humanities

In 1925, Professor Burchard joined the staff of Bemis Industries, Inc., and during a period of 13 years became vice-president of that corporation and of its subsidiary, The Housing Company. In 1938, he returned to M.I.T. as director of the Albert Farwell Bemis Foundation, with the rank of full professor.

From 1940 to 1945, Professor Burchard was on leave of absence from the Institute while engaged on important war work. He served progressively as executive officer of a committee of the National Research Council, as chief of one of the 18 divisions of the National Defense Research Committee, and as deputy chief of the Office of Field Service. He was chairman of the Joint Army-Navy Office of Scientific Research and Development Committee on Scientific Information Policy and of the O.S.R.D. Publications Committee.

Professor Burchard returned from war work in 1945 to take up duties as director of libraries of the Institute, a post to which he was appointed in 1944. During his term of office, plans were consummated for the construction of the new Charles Hayden Memorial Library now being built. He served as a member of the Coöperative Committee on Library Building Plans which, under a Rockefeller Foundation grant, has prepared a monograph on planning university library buildings.

He has written extensively for domestic and foreign periodicals on housing, library planning, architecture, and educational and cultural subjects. He has just completed a history of M.I.T. in World War II.

## 4-H with New Meaning

FOR the first time in the Institute's history a Technology student has gone through a four-year course of instruction with a perfect mark of *H's*. This unusual record was established by Jules S. Levin, '48, of Miami Beach, Fla., who will conduct research in atomic energy at the Brookhaven National Laboratory now that his undergraduate days are over.

Four years — and nothing but *H's*!

## C. Frank Allen: 1851–1948

OLDEST professor emeritus on the M.I.T. Faculty, C. Frank Allen, '72, who was for many years a member of the staff of the Department of Civil and Sanitary Engineering, died at his home in West Roxbury on June 6, in his 97th year. Professor Allen is survived by his wife, and by two daughters, Professor Mildred Allen of Mt. Holyoke College, and Miss Margaret Allen.

Professor Allen was one of the most distinguished members of the Faculty of the Institute, and during its early years he was influential in introducing many advances in educational methods in the Department of Civil and Sanitary Engineering of which he was administrative officer from 1909 until 1911.

After attending Roxbury Latin School, Professor Allen was graduated from the Institute in 1872, and joined the Faculty as assistant professor of railroad engineering in 1887. He became associate professor in 1889 and held the rank of professor of railroad engineering from 1896 until his retirement in 1916. Professor Allen was awarded the honorary degree of doctor of engineering by Northeastern University in 1938.

Before joining the Faculty of the Institute, Professor Allen had wide experience in engineering practice. He spent 10 years in various engineering projects on the Atchison, Topeka, and Santa Fé Railway in Kansas, Colorado, and New Mexico, and for a time was associated with the Mexican Central Railway. He was also engaged in private practice during this period as a consultant on engineering projects in Providence, Newton, and Boston, and was, for a time, chief engineer of the Las Vegas water works. During this period he studied and practiced law, in addition to his engineering work, and in 1885 was admitted to the bar in New Mexico and later to the bar in Massachusetts.

Early in his career he was a director of the Massachusetts Highway Association and later became secretary of the Society for the Promotion of Engineering Education (now the American Society for Engineering Education). He was a member of the New England Railroad Club, the American Society of Civil Engineers, and of other engineering and scientific organizations. He was known as one of the most distinguished members of the Boston Society of Civil Engineers, of which he became a member in 1875. He was a senior past president of the society, having served as a vice-president and for many years as director.

During his later years he devoted a great deal of time to studies of engineering education and was the author of numerous articles on the subject. He was also the author of *Business Law for Engineers* which was written after his retirement from M.I.T. in 1916. Until recently he had been active in the affairs of the Alumni Association of



C. Frank Allen, '72  
... with his daughter, Mildred Allen, '22, at the luncheon of the  
50-year Class on Alumni Day, 1947.

M.I.T., in which he was interested throughout his long connection with the Institute, and last year celebrated his 75th anniversary as an M.I.T. alumnus.

## Reporter's Night

AS is customary, reports for the year's operation constituted the main business of the 263d meeting of the Alumni Council — the last meeting of the current year — held in the Campus Room of the Graduate House on May 24. Raymond H. Blanchard, '17, President of the Alumni Association, opened the meeting by calling for the playing of phonograph records of a medley of M.I.T. songs. With this tuneful introduction, the Council got down to its work of receiving annual reports from officers, committees, and councils.

With 2,551 Alumni voting, the election of new officers of the Alumni Association was reported as given on page 446 of the June issue of *The Review*. The new officers-elect — Messrs. Dandrow, Denison, Ferguson, and Latham — were introduced by President Blanchard.

As a result of attending more than 50 formal meetings of 41 M.I.T. alumni clubs in the United States, Mexico, and Cuba during the past 18 months, H. E. Lobdell, '17, Executive Vice-president, was able to report unusual activity and interest in alumni clubs which were, without exception, ably managed.

The Nominating Committee for Departmental Visiting Committees submitted a slate of recommendations for men to serve on visiting committees, which was adopted by the Council. The 25-Year Class Committee has in preparation a brochure intended to provide information regarding class reunions, class books, and other information of value to class organizations. The names of those Alumni who lost their lives in the armed services during World War II are being checked in preparation for the presentation to the Institute of a memorial tablet to be sponsored by the Class of 1921.

Upon the acceptance of reports, Ivan J. Geiger, Director of Athletics, was introduced by President Blanchard,



and gave a stimulating address on "Athletics in Education." He traced the development of college athletics from its inception as gymnastic exercises, through the formation of contesting teams during the Nineteenth Century and into the present era which is, unfortunately, too often characterized by professionalism. Although it is difficult for M.I.T. athletes to compete favorably with other colleges in which undue emphasis is devoted to the building up of winning teams, the philosophy of regarding an athletic program as a logical part of the general development of the individual is regarded as eminently sound. M.I.T. teams are doing well in competition with other colleges, but the number of students taking part in varsity, intramural, or individual sports is believed to be a more significant measure of the success of the athletic program. It is estimated that as many as 600 students have taken part in intramural activities on week ends during the school year. At M.I.T., the athletic program aims to provide opportunities for every student to learn the principles of team play and to take active part in several sports for his own development. As if indicating alumni wholehearted approval of the Institute's policy on student athletics, Mr. Geiger's presentation was received with unstinting applause.

### *Olympics Bound*

IN fitting honor to the association which has pioneered in fostering dinghy sailing as a collegiate sport since it was started at M.I.T. in 1936, Ralph L. Evans, Jr., '48, will carry the colors of the M.I.T. Nautical Association into the Olympic Games in England this summer. Mr. Evans gained this honor after first defeating representatives of 16 Eastern Massachusetts yacht clubs, and then by taking the measure of six opponents in the United States finals at Larchmont, N. Y.

Mr. Evans has been a prominent member of the Sailing Team since he entered the Institute in 1942. That year he became Freshman Intercollegiate Dinghy Champion and in 1943 won the McMillan trophy for the M.I.T. Nautical Association. His sailing and schooling were interrupted by the war when he entered the Navy and trained as a pilot. He served as an ensign aboard the carrier *Solomon Islands* operating in the Caribbean and along the Atlantic Coast during the latter months of the war. Returning to M.I.T. in 1946, he became commodore of the M.I.T. Nautical Association and captain of the Sailing Team during its successful 1947-1948 season.

The Olympic sailing races will be held at Torquay, Devonshire, England, beginning August 3 and will consist of seven races. Representatives from most of the European nations will take part in the dinghy

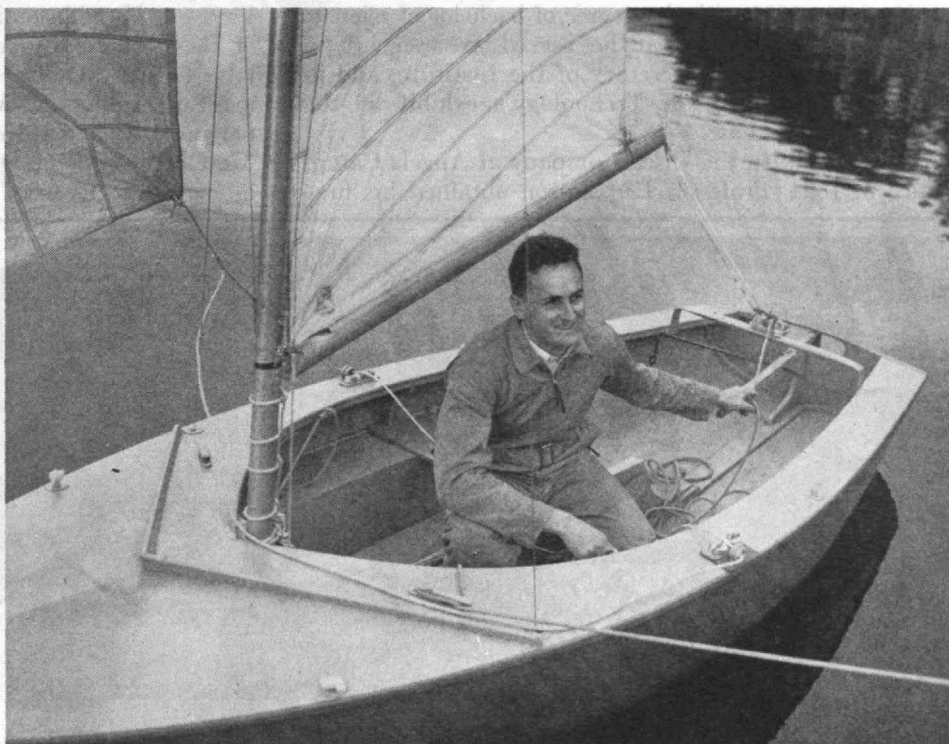
event which is the most popular and competitive of the sailing events. Only one man from each nation is selected to compete. Most Europeans will be familiar with the Olympic dinghy, the *Firefly*, since it is a popular craft in Europe, but it is almost unknown in this country. Fortunately, M.I.T. has one of the few *Fireflies* which are now in the United States, and Evans will have her for practice sailings in preparation for his trip abroad. Evans is fast mastering the peculiarities of the craft and hopes to be thoroughly familiar with the boat by the time he sails for England.

### *McCarthy and Bowie Retire*

HENRY P. MCCARTHY, Director of Physical Training at M.I.T. for 26 years, and Robert Bowie, Field Coach, who came to the Institute in 1930, will retire this summer.

Henry P. McCarthy joined the staff of M.I.T. in 1922 and a year later was appointed director of physical training. His basketball teams have become famous throughout New England and he was the founder of the Tech Tournament, which in 1942 became the Eastern Massachusetts Interscholastic Basketball Tournament. Mr. McCarthy continued to direct the tournament which was held at Tufts College in 1942 and 1943, and was moved to the Boston Garden the following year. He has also served as director of the New England Interscholastic Basketball Tournament, and is a member of the Eastern Massachusetts Basketball Officials' Association.

Mr. McCarthy's first basketball experience was with the Utica Professional League. Later he played with Company G of the Massachusetts State Guard and on the town team of Stoughton. He has coached at Massachusetts high schools, including Arlington, Winthrop, and Revere. Early in his career he went to Salt Lake



*In an unusual climax to the successful conclusion of his course at M.I.T., Ralph L. Evans, Jr., '48, will be the sole representative of the United States in the Olympic sailing races to be held this August in Devonshire, England.*

City where he was supervisor of physical education in the city schools. He then accepted a post as physical instructor at the Froekel High School at Gary, Ind. Following service in World War I, he was appointed assistant physical instructor at M.I.T. and the next year became director of physical training and basketball coach.

Robert Bowie competed as an amateur early in his career and later as a professional runner. He began his coaching career at Colgate University in 1910, later going to Syracuse University. He joined the coaching staff of M.I.T. in 1930. In his 18 years as a field coach at the Institute, he has produced such outstanding athletes as James R. Thomson, '37, high-jump champion of the Intercollegiate Association of Amateur Athletes of America; Stanley T. Johnson, '36, who held the indoor broad jump championship of the I.C.4-A.; John A. Robertson, '32, New England Intercollegiate javelin champion; and Richard R. Wareham, 2-44, who is the best hammer thrower ever to compete for M.I.T.

Mr. Bowie was the guest of honor at a testimonial dinner given at the Institute on May 26.

### *W. Spencer Hutchinson: 1870-1948*

**P**ROFESSOR Emeritus W. Spencer Hutchinson, '92, formerly Head of the Department of Mining Engineering and Metallurgy, died at his home in Dorchester on May 25, in his 78th year.

Professor Hutchinson was internationally known as a mining engineer and as an educator in his field, and during a professional practice of more than 40 years he became widely known in mining regions throughout the world. He retired from the Institute in 1939 after serving on the Faculty for 17 years.

Professor Hutchinson was educated at Dorchester High School and at Technology, from which he was graduated in 1892 with the degree of bachelor of science. During the following year he served as assistant to Harry W. Tyler, '84, Secretary of the Institute, and in 1893 became curator of Technology's exhibit at the Chicago World's Fair.

As a miner with the Utica Company at Angels Camp, Calif., in 1894, Professor Hutchinson obtained his first



*W. Spencer Hutchinson, '92*

practical experience in the mining and milling of gold. In 1897 he became superintendent of the American Development and Mining Company at Gibbonsville, Idaho, and from 1900 to 1903 was employed in several Missouri zinc mines, first as superintendent and later as manager. From 1903 to 1922 Professor Hutchinson practiced independently, with headquarters in Boston. During this period his work took him to various continents and into new professional fields.

Appointed professor of mining at Technology in 1922, Professor Hutchinson in the same year became a member of the firm of Hutchinson and Livermore. Five years later he was appointed head of the Institute's Department of Mining and Metallurgy. In 1937, when the Department was divided to become the Department of Metallurgy and the Department of Mining Engineering, he continued as head of the latter, until his retirement.



*Oscar and Associates*

President Compton spoke before the M.I.T. Club of Chicago on April 22, as reported in the June issue of *The Review*, when this photograph was made of the speaker's table. From left to right are: Mrs. Frank R. Meyer, 3d.; John W. Barriger, 3d., '21; Mrs. James M. Barker; Louis H. G. Bouscaren, '04; Mrs. Pierre F. Lavedan; President Karl T. Compton; Mrs. Robert E. Wilson; Pierre F. Lavedan, '20, Mrs. Karl T. Compton; James M. Barker, '07; Mrs. Louis H. G. Bouscaren; Frank R. Meyer, 3d., '42, and Mrs. John W. Barriger, 3d.

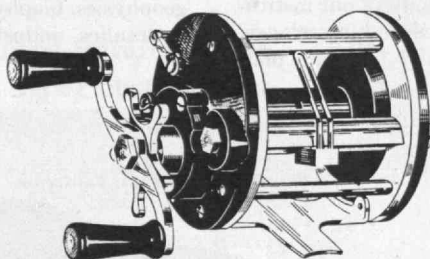


# BUSINESS IN MOTION

## *To our Colleagues in American Business . . .*

Sport is fun. It is also big business, because we Americans spend many millions each year on equipment, ranging from the two-for-a-penny hooks bought by small fry to the \$50,000 (and up) boats used for cruising and fishing; from bats and balls and gloves to guns, outboard motors, private airplanes. Thus sport reaches deep into American industry, to such an extent that companies you would not normally think of in such a connection are indirect suppliers to sportsmen. This is especially true of the metal industries. Revere Metals, such as copper, brass, bronze, nickel silver, are used in marine engines, marine hardware, cartridges, fishing reels, and so on, all without the user realizing it. You might ask why he should, and be quite right. All he wants is really good sporting equipment.

For example, fishermen who own salt water reels of a famous and popular make, selling for as much as \$100, look to the reel to help them make their catches, while the reelmaker looks to Revere as a source of supply of fine metals, metals that are uniform in quality and can be machined with the accuracy required for reliable operation in service. Corrosion resistance under salt water conditions is also essential. Recently Revere looked over its order books and discovered that during the past three years this reel manufacturer had bought the following: Brass Strip, 11 different specifications, for use in making 12 parts;



Brass Rod, 14 different items, for 13 parts; Phosphor Bronze Strip, 6 different items, for one part; Brass Tube, one item, for one part. Revere is not the only source from which this maker buys materials, which makes this list all the more impressive and satisfying. These items were specified with great care, in their various gauges, tempers and alloys, to achieve manufacturing economy as well as accuracy, and to protect the reputation of the reel, which is high, due to the use of quality materials and employment of high skill in manufacture.

In most cases, of course, the Revere Metals have utilitarian end uses. When we find them going into fine sports equipment we have an added satisfaction, heightened by the fact that the manufacturers are as meticulous in purchasing as are any other group of customers. After all, we also like to hunt and fish, and go in for the other sports too. This is true not

only of Revere, but of all suppliers to industry. They too enjoy sports in leisure hours, when not busy making their good materials and helping customers select and fabricate them properly into fine products. So, it is Revere's suggestion that no matter what it is you make—fishing reels or furniture, bait boxes or bedding, it will pay you handsomely to give your suppliers an opportunity to turn their brains to your profit by permitting them to collaborate with you on your problems.

## REVERE COPPER AND BRASS INCORPORATED

*Founded by Paul Revere in 1801*

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**Executive Offices:**

**230 Park Avenue, New York 17, N. Y.**

## ALUMNI DAY, 1948

*(Continued from page 512)*... *Meaning of Logistics* ...

The term "logistics" is peculiarly apt as a basis for describing the functions and operations of our institution. It has to do with the provision and disposition of men and their equipment for an operation. The operation assigned to us by our charter is "the advancement of science and its practical applications in the arts, agriculture, manufactures, and commerce." To accomplish these purposes, our charter furthermore directs us to maintain "a society of arts, a museum of arts and a school of industrial science."

In the spirit of this afternoon's symposium, therefore, can we not think of our Alumni and student bodies as our share of the man-power requirements for the logistics of peace (or for the logistics of war if our national security should unhappily again require us to think in such terms), and can we not think of our Alumni and students as constituting a great and powerful "society of arts" under the provisions of our charter?

In addition to man power, logistics calls for supplies of all kinds needed for the operation. What are these supplies, appropriate for "Operation Technology," for which M.I.T. is responsible? They are scientific knowledge, engineering art in design and production, facilities of research and instrumentation, and the arts of organization and management for using these facilities effectively. Here again our institution has made notable and often pioneering contributions, far too numerous to be mentioned here and too well known to make mention necessary. It is sufficient to say that all these things go hand in hand with our educational activities and are, in fact, inseparable from them. This is one great element of strength of our institution: all of our objectives are closely related and interwoven. This gives us a homogeneity and opportunity for team play

which is notably absent in some educational institutions of widely diverse scope. It is an asset which we should cherish and exploit.

But there is one very significant implication in the word "logistics" which I have thus far not mentioned. It is this: logistics are of significance only with reference to a future operation. So let me tell you something about our logistic problems and plans as we try to project "Operation Technology" into the foreseeable future.

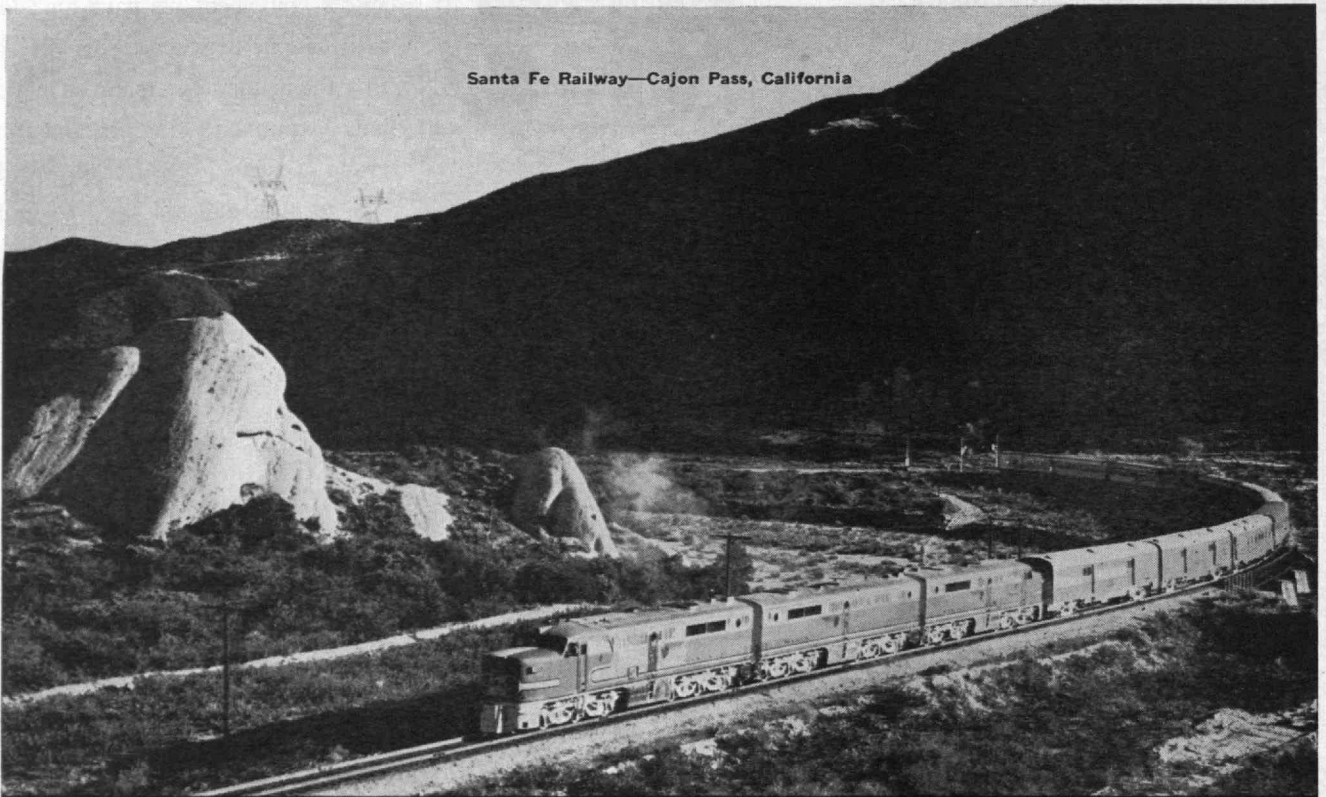
First, what is this operation? Basically it is the continuation of what we have been and are now doing: teaching and research in science, engineering, and architecture; supplementary education in the field of the humanities, together with research in aspects of human relations which have particular relationship to the activities of technologists; co-operation with industry and government in these fields.

A few Departments which were previously very important in our program, like Mining and Public Health, have been discontinued because changed conditions indicated that our resources could be more usefully concentrated in other directions. All programs have been scrutinized and modified in an effort to insure maximum value and effectiveness. The most intensive effort in at least 20 years in this direction has been in progress during the past two years, under a very able Faculty committee which will render its final report with recommendations next fall.

The technical developments during World War II have placed greatly increased emphasis on certain aspects of our work, notably in electronics, nuclear science and engineering, supersonic aeronautics, gas turbine engines and jet propulsion, instrumentation and high-speed devices for computation. There are good reasons for new emphasis on organic chemistry, geophysics, biophysics and biochemistry, metallurgy, acoustics, hydraulics, industrial management and industrial relations,

*(Continued on page 520)*

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# NEW

## Instrument-Type Ball Float Level Controllers

The ball float level controller still has a place in process control. Although level measurement by displacement has overshadowed the ball float type of measurement, there are many applications where, because of the nature of the liquid and/or operating conditions and/or physical limitations, measurement of level by ball float is the only practical solution.

Recognizing the many advanced features of the 12000 Series (displacement type) instruments, Mason-Neilan now offers you these features in combination with flange, chamber and shaft type ball float level controllers.

The highly responsive control mechanisms give

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These are the same mechanisms used on our 12000 Series displacement type level controllers.

Simple, foolproof adjustment of proportional band setting over a wide calibrated range. Easy control point setting by vernier knob with indicating scale.

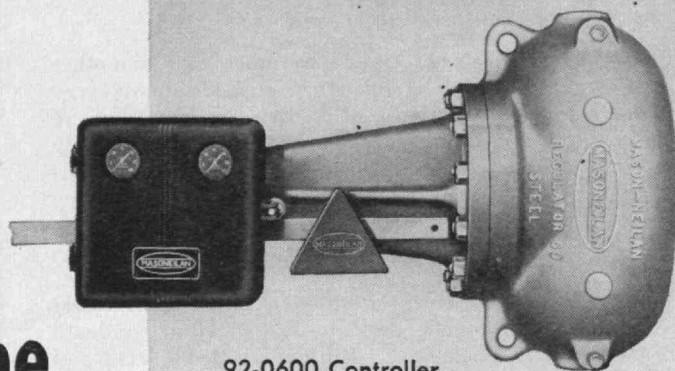
All assemblies are weatherproof, compact, and rugged.

**Consult Our Nearest Office**

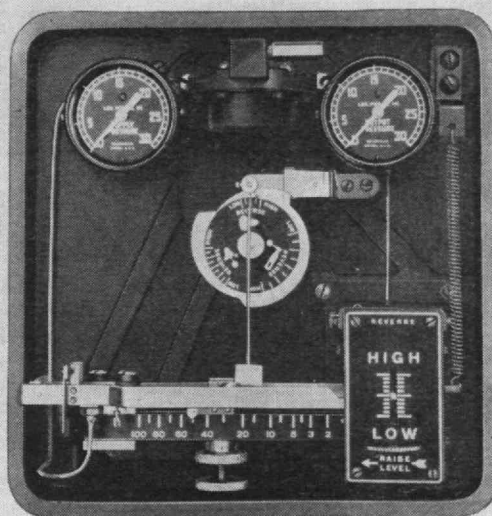


# MASON-NEILAN REGULATOR COMPANY

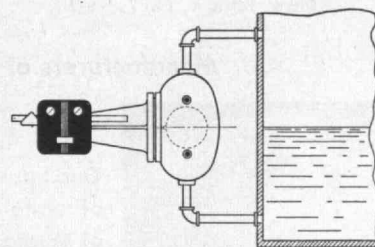
1190 ADAMS STREET, BOSTON 24, MASS., U. S. A.



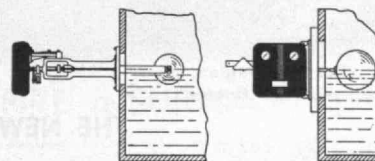
92-0600 Controller



Interior View of Instrument



Chamber Type



Shaft Type

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## ALUMNI DAY, 1948

(Continued from page 518)

and the economic effects of technological progress, — and other of our activities could well be added to this list. On almost every hand the increasing complexity of modern life demands more effective specialized training combined with a more broadly intelligent outlook. It is such demands, and the opportunities that go with them, that set the requirements in planning "Operation Technology" for the future.

### ... Institute Expansion ...

Our student enrollment was stabilized at 3,000 before World War II — about 2,200 undergraduates and about 800 graduate students. With the increased facilities provided during and since the war, we now envisage a total enrollment of about 4,400 — about 3,200 undergraduates and 1,200 postgraduates — as the ideal number which can be handled without such crowding as to detract from the high quality of educational opportunity for our students. During the present year, because of commitments to returning veterans, we have been definitely overcrowded with our enrollments of 5,630 in the first term and 5,200 in the second term. Next year we should get down to a better figure of about 4,800.

Three factors compel us to expand our operations beyond their prewar scope. First of these is the rapid development of science, technology, and the demands of industry. This expanding development has proceeded for many years, but the war accelerated it in several directions while at the same time building up a great backlog of requirements and opportunities. The great technical advance in particular fields calls for more intensive and extensive specialization, and this means that we must enlarge and improve our operations at the postgraduate level. Study and research at the master's, doctor's and even post-doctor's levels are inevitably in greater and greater demand. Simultaneously, the increasing complexity and interrelations

of all types of professional activity emphasize the increasing importance of a well-integrated education in the fundamentals of science and culture, of basic professional requirements, and an understanding of human relations. This is primarily the challenge to our undergraduate program, of which our Faculty is now completing a very intensive two-year study.

### ... Unprecedented Demand ...

The second factor is largely a result of the war. This gave such a striking demonstration of the importance of applied science to our national security and our industrial development that there is an unprecedented demand by both government and industry for the creation of a great reservoir of scientific knowledge, of engineering art, and of trained man power from which our industries and armed forces can draw to meet their future requirements. Because of M.I.T.'s outstanding performance during the war, so well portrayed by John E. Burchard, '23, Dean of Humanities, in his book, just off the press and entitled *Q.E.D.: M.I.T. in World War II*, we have been under very great pressure to accept research contracts through our Division of Industrial Cooperation. We have felt justified in taking on only a fraction of the work requested of us, and have adopted criteria that these jobs must be of important scientific or engineering interest to our staff, that they must contribute to our educational objectives, and that the results must be free for publication for the benefit of all, except under a few very special circumstances dictated by national security. This type of work is being held down to about \$12,000,000 a year for operating expenses and is, of course, on a no profit-no loss basis. This work is of great value to our program for education at the higher levels, for advancement of knowledge and its practical applications, and for our service to the nation, but it does make great demands on our plant facilities.

The third factor is our reputation, in which we can take just pride. Evidence of this is the large surplus of student applica-

(Continued on page 522)

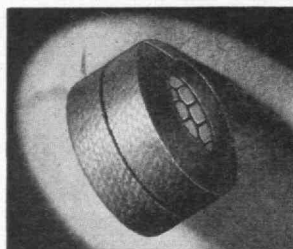
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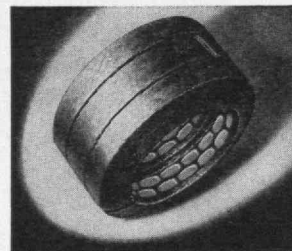
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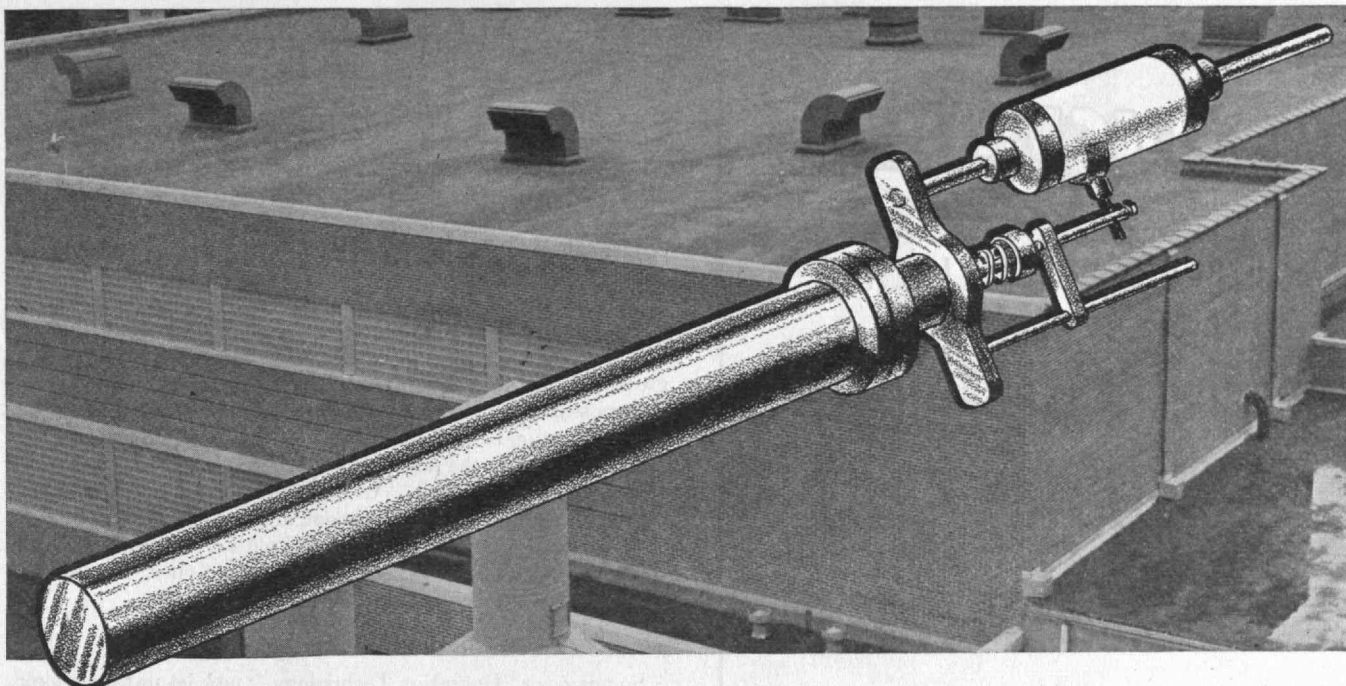
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L. J. Fitz Gibbon, '35  
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Treasurer

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Secretary





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**V**ERY simple, very useful, this new gage already has reduced the costs and increased the accuracy of explosion research. Designed by Factory Mutual engineers for use at their Testing Laboratories at Norwood, Massachusetts, the gage can be adjusted to simulate the strength and natural vibration period of any type of construction. Thus adjusted, it accurately records resistance of such construction to an explosion in a heavy concrete test chamber.

This record shows directly whether or not the explosion would have destroyed the construction being studied. On the basis of this information, Factory Mutual engineers can specify any necessary improvements in construction and venting arrangement.

The explosion effect gage is one of the recent

developments for the better safeguarding of Industry against the explosion hazard. And explosion research is only a part — but an important part — of the broader efforts by the Factory Mutuals in making plants safer from fire, explosion, and other forces of destruction.



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WILLIAM W. JOHNSON..	'23
ALTON B. STORER.....	'30
R. BARLOW SMITH.....	'33
JOHN E. BELL.....	'36
ROBERT A. WIEGAND....	'45

## ALUMNI DAY, 1948

(Continued from page 520)

tions for admission, the volume of requests for us to take on research projects of the highest importance, the desire of employers to engage our graduates far beyond our capacity to meet, and continual comments from all quarters, like the following, by one of the ablest and best informed scientists of the country, himself not an M.I.T. man, and referring to our research program: "I had a wonderful two days at Technology and I was not only impressed but overwhelmed by what I saw. It is really rolling along like an avalanche. My strong impression was that the sum total of M.I.T. activities is equal to, if not greater than, the combined activities of all universities on the eastern seaboard, and the pressure of enthusiasm even greater." This reputation is very gratifying, but it is just one more factor which emphasizes the fact that we must continue, in the words of Edward Everett Hale, "to look up and not down, to look forward and not back, to look out and not in, and to lend a hand." Our position was not reached without sustained efforts and without taking risks — sometimes large ones. The efforts must be continued and the position consolidated.

### ... Basic Problems ...

So much for "Operation Technology": now let us take a look at the logistics of the situation. The logistic problem is basically one of finances, since dollars can be translated into the required facilities of staff, buildings, equipment, and operations. This problem can be stated in broad general terms in the following ways.

The cost of living as measured by the Consumers' Price Index has risen, as of April of this year, nearly 70 per cent since 1939. Actually in American colleges increasing compensation of faculty members has fallen far behind the rising cost of living. At M.I.T. our average monthly academic staff salary rate has gone up about 30 per cent. By means of the annual salary plan instituted at the end of the war, and involving summer-term duties, the total assured take-home pay of our Faculty has increased about 50 per cent. It should be pointed out that many of our staff on the nine-month plan earned extra compensation during the summer, both at the Institute and outside, and that while the annual plan benefited the Faculty as a whole it may not in individual cases have increased the total compensation. Also in this period the tuition has been raised by 16 $\frac{2}{3}$  per cent.

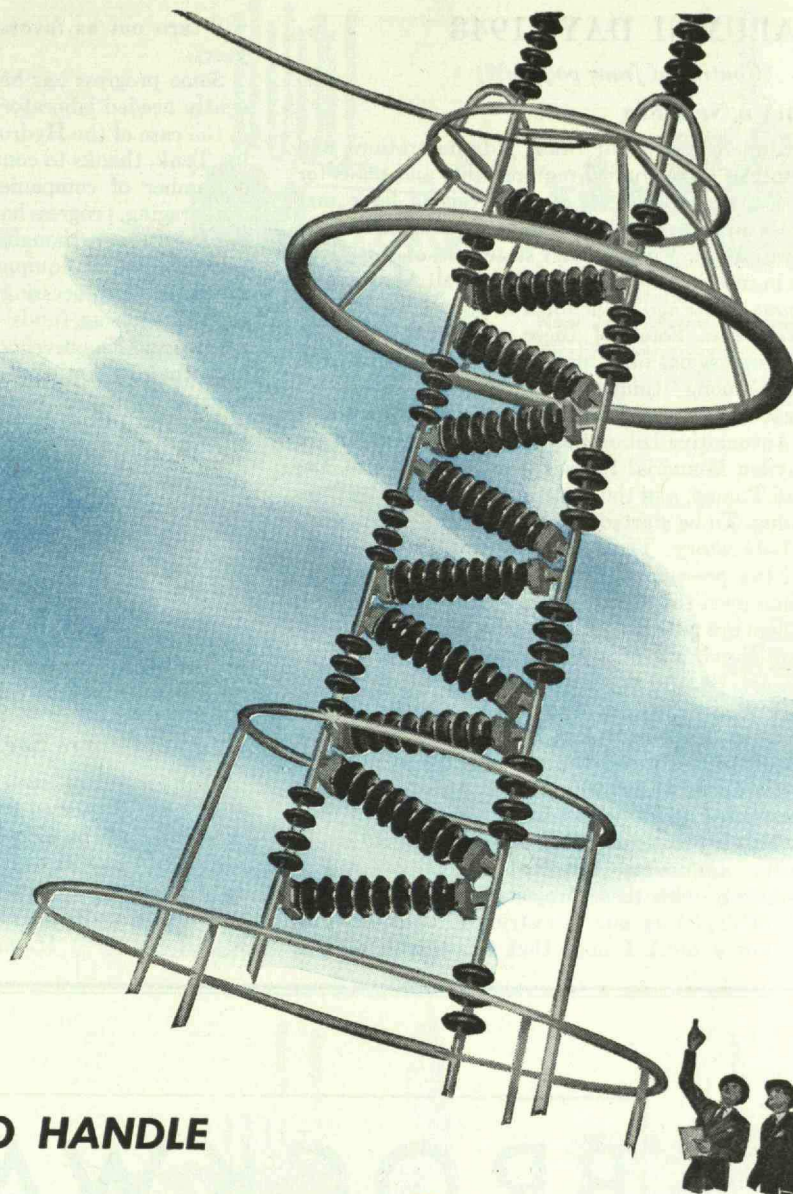
From another angle, the picture may be described thus. While our endowment funds have remained substantially unchanged since 1940, our academic budget (not including the research work paid for by government and industry) has doubled, partly because of increased enrollment and partly because of generally increased unit costs. In fact, while our endowment funds have increased from \$33,000,000 to \$48,000,000 since 1930, the income which we receive from our endowment has actually decreased as a result of lower interest rates. The significance of these facts is realized when it is pointed out that it is income from endowment which permits an institution to rise above the hand-to-mouth level of the struggling unendowed private institution and to maintain standards of excellence and leadership alike among private and tax-supported educational institutions. In this foundation for permanent strength our situation is relatively weaker than it was.

From still another angle we can view our logistic requirements. We urgently need certain new additions to our plant if we are to play the influential role in the future which M.I.T. has played in the past. This is simply because new technological and educational developments require new facilities adapted to the new uses, and also because any increase in our student body calls for some commensurate increase in facilities.

These are the main features of M.I.T.'s logistic problem. Let me conclude by telling you what has recently been done and what is going to be done about it.

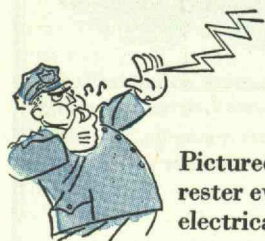
(Continued on page 524)





## PROBLEM: HOW TO HANDLE

# 500,000-Volt "traffic"



Pictured above is the largest lightning arrester ever built. Its job—to help protect electrical "traffic" of almost *twice* the voltage now carried by existing power lines.

Together with giant transformers, each as high as a 3-story house, this highly specialized equipment was designed and built by Westinghouse for the world's first 500,000-volt test transmission line. Now in operation in southern Ohio, this 1½-mile line will help power companies answer a vital question . . . *Can electric power be transmitted more efficiently over long distances at ultra-high voltages?* The answer may well revolutionize the economics of power transmission.

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## ALUMNI DAY, 1948

(Continued from page 522)

### . . . Exploring a New Era . . .

For more than two years our Staff, Administration, and Executive Committee have studied requirements and plans for meeting them. Exploratory efforts at fund raising have met with some success and have given valuable experience for the planning of future efforts. A preliminary statement of objectives and of progress in meeting them was mailed to all Alumni and other friends about a year ago in the form of a brochure entitled *M.I.T.—A New Era*. Some of these objectives are now achieved, some progress has been made toward others, and the rest are still listed among "things hoped for."

Completed last fall were the Gas Turbine Laboratory and enlarged Sloan Automotive Laboratory. Under construction are the Charles Hayden Memorial Library, the Senior House, the Supersonic Wind Tunnel, and the athletic cage which was dedicated this morning. To be started this summer is a special new High Voltage Laboratory. These facilities are costing about \$9,000,000, and the present construction represents a greater dollar outlay than even the great central educational building. The funds for them are gifts from the Charles Hayden Foundation, the Alumni Fund, a group of five industrial companies, Alfred P. Sloan, Jr., '95, the Boston Stein Club, and some war surplus, together with a Navy contract and an investment of endowment funds in the Senior House. These sources contribute a little over \$8,000,000 toward the required sum, and the balance of a little under \$1,000,000 is underwritten from the Institute's unrestricted funds which have hitherto been used as endowment. This is practically all of our unrestricted funds, but the Executive Committee felt that the importance of going ahead promptly with these projects was so great as to justify the risk of depleting our unrestricted funds even to so dangerously low a level. I hope that this calculated risk

will turn out as favorably as several others taken in recent years.

Some progress has been made in raising funds for three urgently needed laboratories. We are almost in sight of the goal in the case of the Hydrodynamics Laboratory and Naval Towing Tank, thanks to contributions of money or equipment from a number of companies and two individuals. Less, though encouraging, progress has been made toward the Metals Processing Laboratory, though for it we have acquired a very fine and complete lot of equipment and tools from war surplus and several metal-processing companies. No progress has been made toward securing funds directly for a Laboratory of Nuclear Science and Engineering, but indirectly our efforts have resulted in actual or anticipated contributions of about \$1,250,000 toward support of research over a five-year period in this or closely allied fields in physics, chemistry, and chemical engineering. These contributions come from some six or seven industrial concerns.

A few unsuccessful attempts have been made to secure funds for other projects on our priority list. But, by and large, the over-all report to date is this: We have seen very specific immediate need for about \$30,000,000, of which \$20,000,000 is to be used for additions to our physical plant and \$10,000,000 for additional endowment. More endowment is desirable, but these are our immediate needs. Of this \$30,000,000, about \$10,000,000 has been secured, leaving some \$20,000,000 still to be secured.

### . . . As Others See Us . . .

The results of such exploratory studies and fund-raising efforts were reported to our Corporation at its last December meeting, and the Corporation set up an *ad hoc* Survey Committee to make its own critical evaluation of the situation and to recommend to the Corporation appropriate action. This committee, under the chairmanship of John R. Macomber, '97,

(Continued on page 526)

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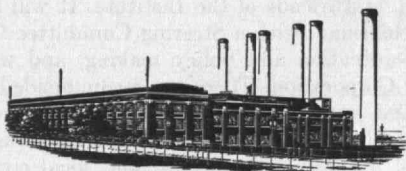
**BROCKWAY MOTOR COMPANY, INC.**

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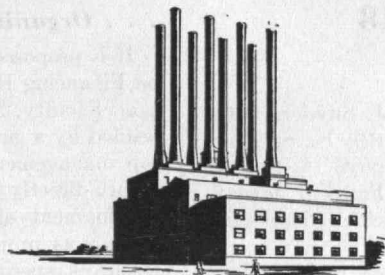
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**Lakeside Station,  
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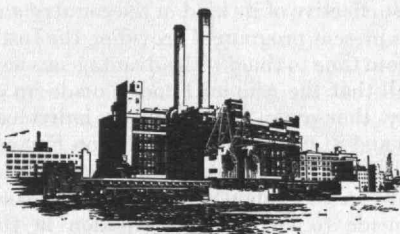
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First industrial power station to be designed for pulverized coal firing... world's largest industrial power plant.



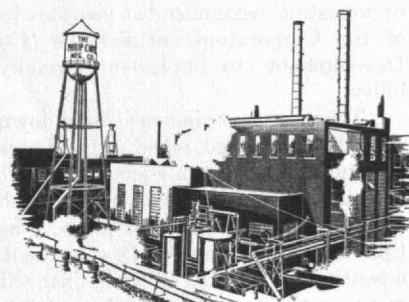
**Kips Bay Station,  
New York Steam Corporation**

World's largest central heating plant... heats many of Manhattan's most notable buildings.



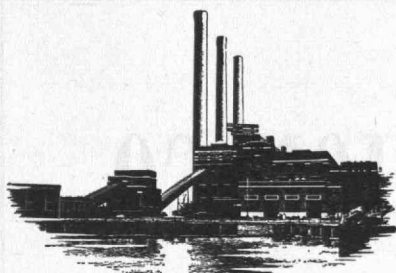
**East River Station,  
Consolidated Edison Co. of New York**

First power station to install boilers capable of producing 1,000,000 lb of steam per hr.



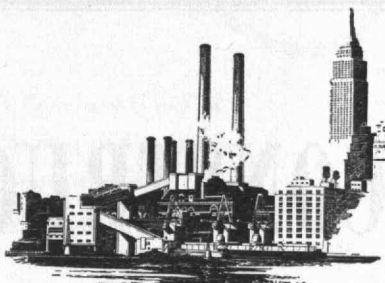
**Lockland Plant,  
Philip Carey Manufacturing Co.**

First American plant to generate steam at pressure as high as 1800 lb per sq in.



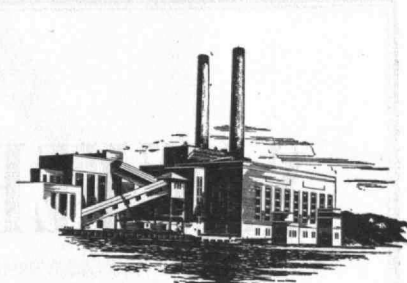
**Port Washington Station,  
Wisconsin Electric Power Company**

Established efficiency standard for modern power station performance.



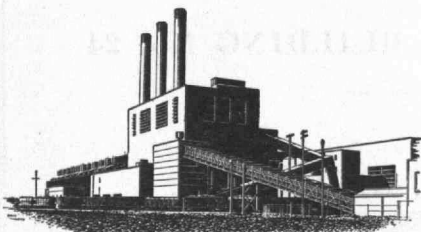
**Waterside Station,  
Consolidated Edison Co. of New York**

Greatest power station modernization project... replaced 145 boilers with 10, and nearly doubled capacity.



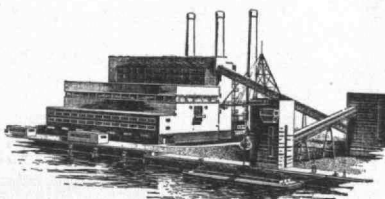
**Somerset Station,  
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**Sewaren Station,  
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Collectively these ten great stations have pioneered much of the progress made in power-generating practice during the past quarter century. They are notable for many achievements and records in addition to those stated briefly in the titles. And they share one other thing in common. The records and pioneering for which they are known throughout the power industry were achieved with equipment designed and built by Combustion Engineering.

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ENGINEERING**

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## ALUMNI DAY, 1948

(Continued from page 524)

included: Marshall B. Dalton, '15, Joseph J. Snyder, 2-44, Thomas D. Cabot, Phillips Ketchum, Charles E. Spencer, James R. Killian, Jr., '26, Thomas D'A. Brophy, '16, Donald F. Carpenter, '22, Francis J. Chesterman, '05, Frank B. Jewett, '03, Duncan R. Linsley, '22, Gordon S. Rentschler (deceased), and George A. Sloan.

The energy and skill with which these men tackled their assignments were commensurate with their distinction as citizens and men of affairs. They made a unanimous report to the Corporation at its March meeting, and the Corporation voted unanimously to authorize the plan there recommended. I can best convey to you the conclusions thus arrived at by quoting sections of the committee's report, as follows.

"General oversight of the program of securing funds for the Institute is the ultimate responsibility of the Corporation. The organization recommended provides for a standing committee of the Corporation entitled the 'Committee on Financing Development' to implement formally this specific responsibility.

"The program to increase the endowment and plant of M.I.T. should be a planned, scheduled and organized effort to bring the Institute to maximum effectiveness. The short-range objective is to secure \$20,000,000 over a reasonable period for immediate application to the several projects and endowment but the Committee on Financing Development should also arrange for a continuous directed effort to finance new or changed requirements as they arise in the future. It is suggested that the long-term activities include steps to promote the welfare of M.I.T. by encouraging and strengthening interest in the Institute among influential individuals concerned with the future of privately endowed institutions, and by stimulating the making of bequests to the Institute."

### . . . Organization . . .

It is proposed to establish this widely organized Committee on Financing Development with representation from Corporation, Faculty, Alumni, and friends of the Institute. It will be headed by a general chairman, with a Steering Committee for top management, co-ordination and policy making, and will report directly to the Corporation. There are recommended a development office, and various special committees on such matters as projects, public information, alumni participation, resources, special gifts, business corporations, and local committees. This general framework may be modified and expanded as dictated by further thought and experience. Possible employment of professional help in fund raising was carefully explored, and left for decision to the new organization and the Executive Committee. The general spirit of the effort was described in the words: "While the immediate effort will not be a campaign or drive, the organization needs to operate with a sense of urgency and with effective publicity."

It was made clear that this plan is not to interfere with or temporarily supplant the Alumni Fund, which has so quickly grown to one of the most effective of its kind in the country and which must continue its present program of providing the Institute and its students, from time to time, with advantageous new facilities. You will recall that the Alumni Fund is made up of contributions by many thousands of Alumni in individual amounts between \$1.00 and \$1,000. The Committee on Financing Development will seek larger amounts from fewer sources. The report states that: "In the judgment of the Committee, all efforts should be made to increase participation in the Alumni Fund and the average size of gift with emphasis on proportionate giving."

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(Concluded on page 528)

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## ALUMNI DAY, 1948

(Concluded from page 526)

education the world over, it must be possible to solve our financial problem promptly. The first requirement is to find the leader and spearhead, the general chairman of the Committee on Financing Development. And this I am most happy to say has been done, to the unanimous and enthusiastic satisfaction of the Corporation and its Survey Committee. He is a life member of the M.I.T. Corporation. He is a past president of the M.I.T. Alumni Association. He is your good friend and mine, Marshall B. Dalton, '15, President of a Boston insurance company. Jack Dalton's company is generously freeing a large part of his time during the coming year to devote to the planning and organization of this operation in financial logistics. He believes that the preliminary spade work can be done in time for the actual operations to begin in the fall.

In conclusion let me make this comment. I realize that I have not given you a flowery after-dinner speech, or one sparkling with wit. Its recital has not been exciting. But, gentlemen, the potentialities of this plan and effort are exciting. As your imagination fills in the gaps and projects our institution into the future as you would like to see it, and as from time to time you receive progress reports or requests to lend a hand, I hope that your pride in the Institute and your ambition for it will grow by leaps and bounds. If what I have termed our "society of arts" should really put its potential power behind the Institute, it is as certain as anything in this world can be that the Institute would rise to new heights of service to the nation and education of its youth.

Finally, it is customary on this occasion to make a brief report on the aggregate of gifts which have been received by the Institute during the current year. As of this date, these gifts total about \$1,950,000 in actual receipts. This does not include a substantial aggregate of pledges payable after July 1, nor of course does it include payments under contracts with our Division of Industrial Cooperation. We know of several gifts which will be received before the end of this month and which will bring the aggregate for the current fiscal year to a little over \$2,000,000.

It is interesting to compare the trends in these gifts over the past 10 years. Since 1938 there have been received a little over \$10,600,000 in capital gifts and a little over \$4,200,000 in gifts for current operations, or a total of nearly \$15,000,000. The capital gifts for any given year range between \$465,000 and \$2,042,000 and vary considerably from year to year depending on the addition of a few large gifts or bequests. The gifts for current operations, however, have shown an almost uniform upward trend, and their value of \$809,000 this year is by a considerable margin the largest total for such purposes which has been received in any one year. This trend is most encouraging and is the only thing which has made it possible for the Institute to move ahead in its technological activities in spite of the increased level of all costs without a corresponding increase in income from endowment.

... *Finale* ...

About 10:00 P.M., after everyone had agreed that they had enjoyed an outstanding series of events, Alumni Day, 1948, was brought to a close with the singing of M.I.T. songs led by Orville B. Denison, '11, Vice-president-elect of the Alumni Association, accompanied at the organ by Woolford Trembly.

Those who took part in the affairs of Alumni Day, 1948, may have had a strenuous time; some of them worked hard to assure the success of an alumni event which annually brings back to the Institute hundreds of graduates from all parts of the country, if not the world. But whatever their participation — from the most passive to the most active — all those who attended were enthusiastic and had high praise for the events of Alumni Day, 1948.

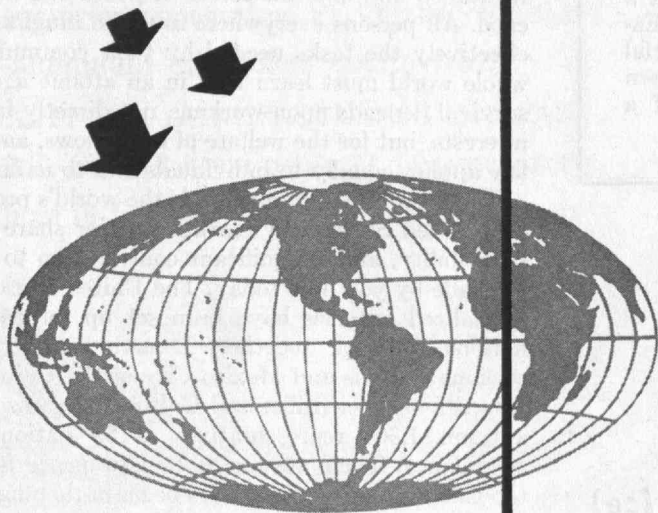


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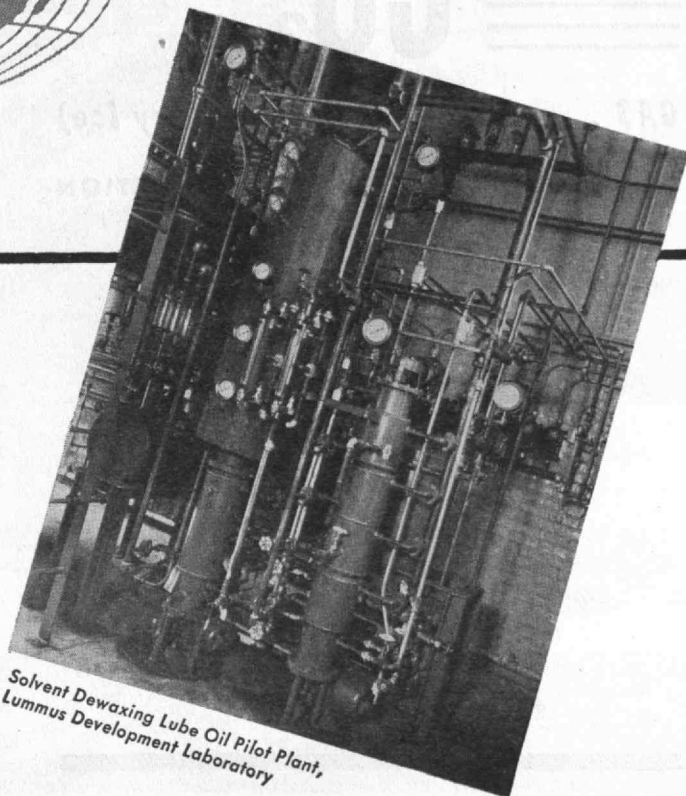
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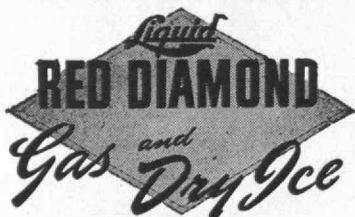
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## EDUCATION FOR PEACE

(Continued from page 503)

the world needs to understand the rights and responsibilities of man in modern society. We speak easily of life, liberty, and the pursuit of happiness. We must remember that the only life that one values is a healthy life, with a sound body and mind; a life in which the individual is equipped with the skills, knowledge, and attitudes that fit one for taking a useful part in society. Liberty, in turn, means the freedom and ability to do what one wants to do, a freedom that can be allowed only when one is so trained that his wants are consistent with the welfare of his fellows. The successful pursuit of happiness implies that one knows what is good so that he can choose wisely the course that will bring satisfaction. Our great human goal is thus to enable every person to share effectively in the work of the world, each as his capacity permits. In performing this service, we grow to our fullest manhood. Progress toward this goal is in the direction of strength, prosperity, and peace.

It is then toward such objectives that education for peace must be directed. Citizens responsible for shaping the political pattern must learn what the factors are that tend toward peace and war, how war tensions can be restrained and how the forces of peace can be strengthened. All persons everywhere must be taught how to do effectively the tasks needed by their communities. The whole world must learn that in an atomic age our very survival depends upon working, not directly for our own interests, but for the welfare of our fellows, and that this law applies equally to individuals and to nations.

The establishment of peace is the world's problem. Yet the United States now carries a major share of the responsibility, and a significant contribution to peace can be made by you here today. The United Nations and its specialized agencies have been set up for enabling the nations to work together. I have recently attended sessions at Paris and Mexico City of the United Nations Educational, Scientific, and Cultural Organization. Last autumn 1,500 representatives of 39 nations were in attendance. Their answer as to how peace is to be established is clear: "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be constructed." A program of concrete educational objectives is in hand, designed for promoting peace.

By far the greater part of the preparation for peace is, however, that being carried on by the various nations themselves. Because of the influential place of the United States in current world affairs, the attitudes and actions of our citizens become of extraordinary importance in setting the pattern of peace or war. Our own education, our own understanding of the world's problems and of our relation to them, our own ability to give the service that the world now needs, is perhaps of greater significance to world peace than that of any other nation. One reason for America's unique place in education for peace is that with the disruption of educational facilities in many parts of the world, we are called upon to train thousands of young men and women needed for key educational posts in the devastated countries. The great international educational service that Germany gave after World War I must now be supplied in large measure by the United States. The growth of industry and com-

(Continued on page 532)



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## EDUCATION FOR PEACE

(Continued from page 530)

merce on a world-wide scale depends greatly upon the advances in technology and science. In these fields the United States has become an acknowledged leader; the active pursuit of such studies in universities is vital to the development of society into a world community.

For more than a generation we, in the United States, have developed our educational programs around the need for training to do practical jobs. One result has been our development of the mightiest productive power the world has seen. The present dependence of the world on our surplus production demonstrates the great practical importance of such technical training. We find, however, that our greater need now is to find the goals toward which this great power can best be used. Knowledge of human values and of human motivations is thus given renewed emphasis. Old concepts of morals and ethics need to be refined, and evaluated afresh, and restated in modern terms. We have seen great nations, leaders in military might, in industry and culture, broken because of their failure to comprehend spiritual values. We thus look with renewed earnestness toward a development of religion appropriate to our age. It is our obligation to the world that the Titan powers of our nation be guided by the best understanding of human values, human motives, and human behavior that we can attain. It is to learn thus what it is that makes life worth living, and to build this knowledge into our lives that is now our supreme task.

The fact is that much of the world is deeply discouraged. People see that life in the atomic age means industrialization and technology. To us with whom such life is familiar, the associated changes may appear as a great adventure. But to civilizations long accustomed to a simpler society, the necessary emphasis on machines, and things, and the facts of science seems to imply by their neglect that such matters as beauty, and happiness, and friendships are of negligible importance. People dread the change in their way of living which is inevitable.

What they need is to be shown that modern life also has its human values. It is we, to whom this life is native, who must find such values first in our own lives, and then show our neighbors the opportunity present in the new world. Is not the distinctive opportunity offered by a technological society that of being able more adequately to give those around us the chance to live a well-developed life? Is not this the joy that is ours? As this aspect of the modern age becomes understood, hope will replace the dread that is now so widespread, and nations will approach the future with courage.

Here then are the distinctive tasks before us now: to develop in our own lives such human values that the world will approach the atomic age with courage; to cultivate the understanding of our fellows that makes for friendly relations; and to enter with joy into the task of giving others the best service of which we are able. Thus we will build for ourselves, happiness; for the nation, strength; and for the world, lasting peace.

It will not be easy. We have noted that education for peace is a world task. It is probable that once again, as in 1930, behind some iron curtain, there will be those who will educate not for peace but for war. It could be that this is in fact going on now. It is for such a test that we

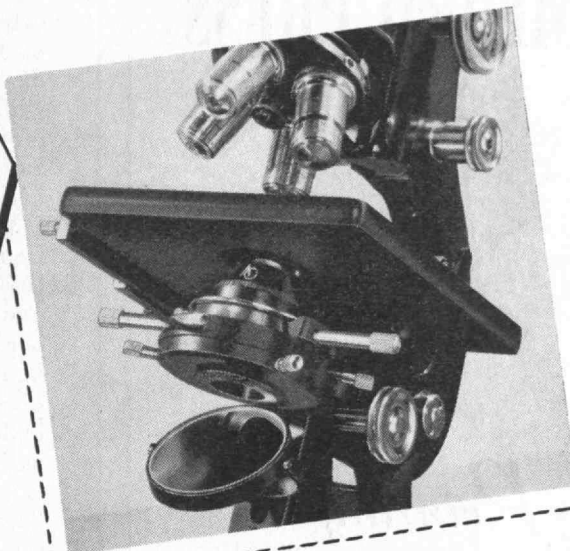
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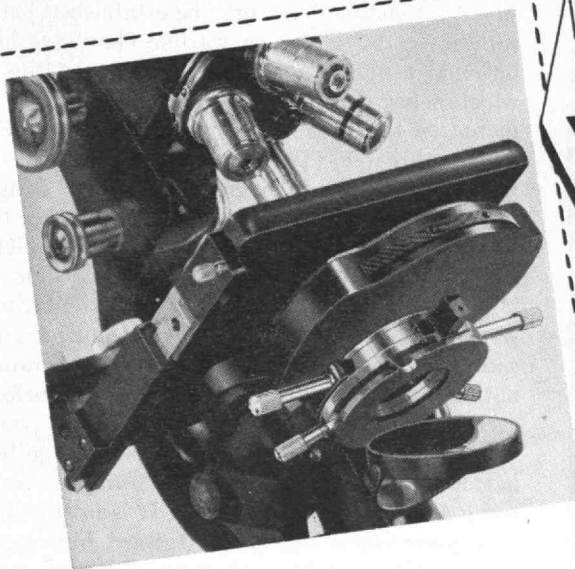
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## EDUCATION FOR PEACE

(Concluded from page 532)

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must prepare. I personally am confident of the ability of the free nations of the world, if they are determined to maintain their freedom as I believe they are, to withstand such dangers. The course is clear. We must maintain adequate military preparedness so that aggressors will be deterred from warlike plans, and at the same time build up the power of peace. This power consists of the harmony of purpose that comes from a common concern with the welfare of persons, the co-ordination of effort provided by suitable political and economic organization, and the choice by free men and women to make their lives abundant through effective service of their fellows.

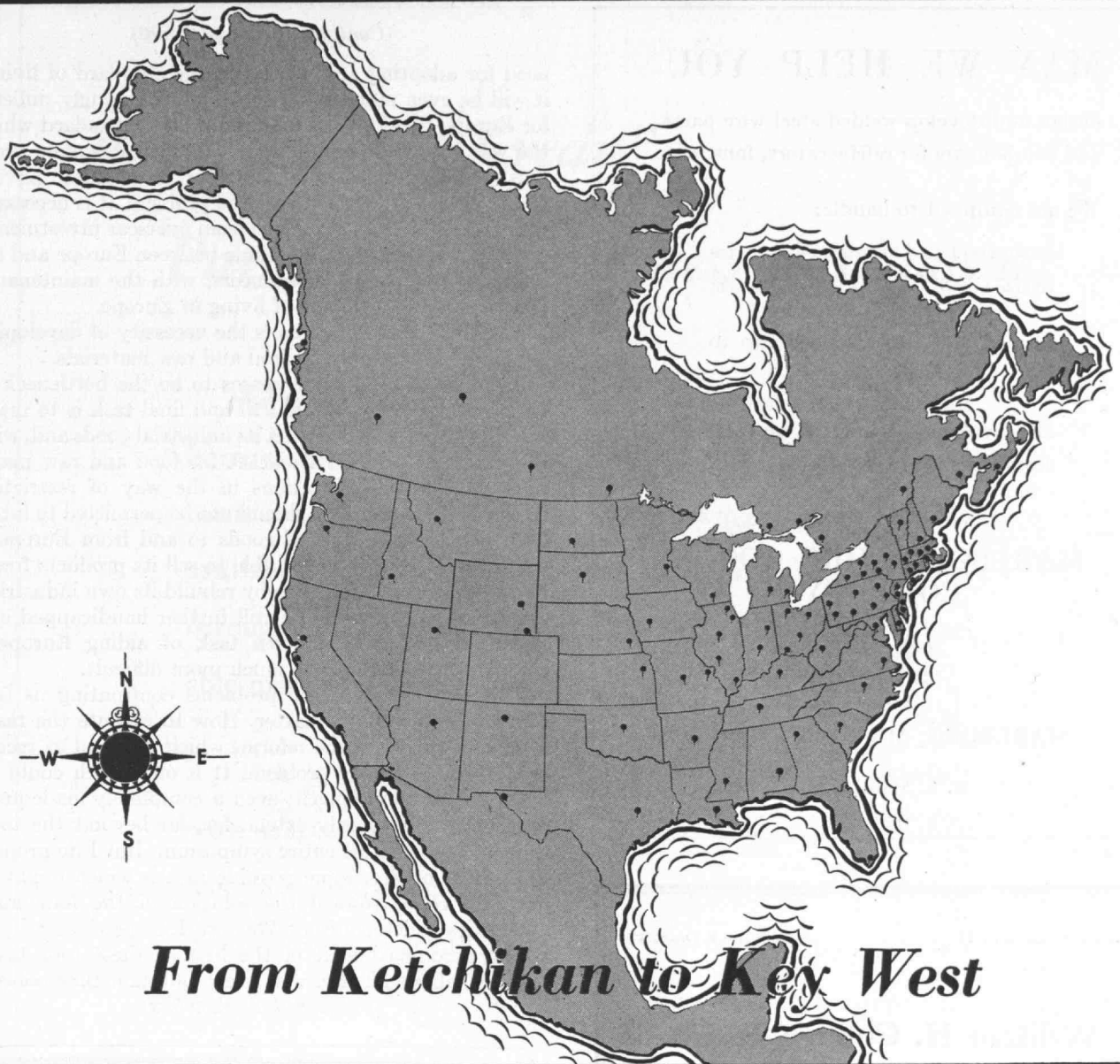
We have made a good start. Whether from altruism or from enlightened self-interest, the great effort of our nation in spending its billions for the recovery of a continent, most of which only a few years ago was viciously seeking our destruction, is a great moral venture, as far as I know unparalleled in history. It promises to pay rich dividends toward establishing peace and very probably in building a strength and prosperity of the democratic nations in which we will share. But more and more effort is required. Recent faltering action by Congress in financing this reconstruction reminds us how we take the easy course when immediate danger of war seems relaxed.

Once again, as the wheels of history turn, it seems possible that lasting peace may be established before another war descends. The very warlike character of our international atmosphere makes us alert to the dangers to which a few decades ago we were blind. The chance has increased that, when the unfortunate accident happens which threatens peace and freedom, the world can weather the storm. The greatly increased danger inherent in war and the greatly increased importance to the world of maintaining a peacefully co-operative society call for a supreme and persistent effort during our generation.

Young men and women, you are entering into this struggle. You have already played your part in fighting a war to avoid the spread of an enslaving tyranny over our nation and the world. Now there lies before you the greater task of creating a system in which people can live with confidence in each other, working together to attain harmonious human goals. Each of you has prepared himself for his own field of service. It is in this task of yours that your immediate work toward building peace can presumably best be performed. But you must keep in mind also the farther goals. It is the responsibility of every person, but especially of every educated American, to make sure that in his work he is making his best contribution toward the life of the world community. This is the path to peace, to prosperity, and to greatness.

Previous generations have thus laid a foundation on which peace can be built. If you, in your generation, can now construct the framework of peace, the generations to come will develop this structure into a beautiful building fitted to a better life. That previous efforts to set up this framework have failed must not discourage you. The chance for success is now at its best. If you try and fail, at least you will have brought ultimate success closer. If you succeed, you will have made real the great dream of mankind. Vision and courage are the essentials. It is not the warlike world of the past that determines the future. Our future depends on what we aspire to become.





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## ECONOMIC MEANS TO PEACE

(Continued from page 500)

need for adopting any decline in the standard of living; it will be even more unpleasant and exceedingly difficult for Europe to adopt the materially lower standard which the war has made mandatory. The new economic order must be faced realistically, however, if we are to have a viable peace. Thus, as our second problem, it is necessary to reconcile the loss of income from overseas investments, and the change in terms of trade between Europe and the food and raw material producers, with the maintenance of a reasonable standard of living in Europe.

The third task before us is the necessity of developing new sources of supply of food and raw materials.

As physical production ceases to be the bottleneck in European recovery, the fourth and final task is to make sure that Europe can market its industrial goods and, with the proceeds, provide a market for food and raw materials. Man-made institutions in the way of restrictive legislation, for example, should not be permitted to interfere with the free flow of goods to and from European countries. If Europe is not able to sell its products freely in a world market and thereby rebuild its own industries, European recovery will be still further handicapped and slowed down, and our own task of aiding European countries will be made so much more difficult.

The recognition of the problems confronting us is a comparatively simple matter. How to execute the tasks needed to carry out the reforms which will lead to recovery, is quite another problem. It is one which could be discussed at great length; even a completely inadequate discussion might easily extend far, far beyond the total time allotted for this entire symposium. But I do propose to outline, briefly, some possible means which might be put into effect toward the solution of the four main difficulties which confront Western Europe.

The accomplishment of the first of these four tasks requires, above all else, wise fiscal and monetary policies

(Concluded on page 538)

William H. Coburn, '11

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## ECONOMIC MEANS TO PEACE

(Concluded from page 536)

by the European governments, coupled with wisely used economic assistance from the United States. Great progress toward its accomplishment can be made within the next few months if the European Recovery Program can be carried forward with sufficient funds.

The key to the accomplishment of the second task is a larger increase in the productivity of capital and labor in European industry. I have already stated that the production in Europe is going along sufficiently well that it is no longer the major problem, but European productivity is pitifully low. And here I wish to make a distinction between production and productivity. Although the two terms may sound quite similar, there is a vast difference between them. Production refers to the total amount of goods manufactured, grown, raised, or otherwise produced; it is simply the total amount of goods without consideration of the manner in which it came into being. Productivity, on the other hand, refers to the amount of goods produced per person per unit of time. It is the time rate at which goods can be produced by human effort.

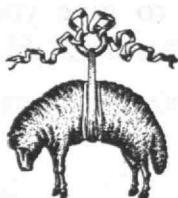
In Europe, the productivity—the rate at which goods are produced—is still lamentably low. Low productivity is the reason why Europe has not been able to resume its former position of more or less self-sufficiency and has come to this country in search of aid. Greater productivity is the only way for Europe to live within its means; it is the only way in which it can achieve the necessary social tranquility which it must achieve under its new economic order. Higher productivity means lower unit costs, which in turn means that more persons can

afford to purchase goods previously denied them for economic reasons. But vast investments of capital will be needed to stimulate European recovery.

The accomplishment of the third objective likewise requires the investment of capital in the relatively undeveloped parts of the world. There is no doubt that the capital formation, the creation of new physical facilities and resources on a very large scale (both in Europe and elsewhere in the world) is physically and technically possible and that it is the necessary condition of healthy economic development in the world. The only major doubt about the feasibility of accomplishing this result concerns the channels through which the international flow of capital can take place.

The accomplishment of the fourth objective requires, above all, the pursuit of proper trade policies by our own government. To be sure, Europe will not be able to market its industrial products unless European productivity is high and European producers are able to compete with American. But this problem will largely solve itself if the United States balances its account with the rest of the world by both importing goods and exporting capital funds. There is every prospect that the United States can be permanently a heavier importer in the future than it has been in the past and that it can continue to be an exporter of capital. But this accomplishment in our economic position in the world could easily be frustrated either by reversal of our policy of reducing trade barriers or by failure to further international investment.

Through reasonably enlightened policies on our part, recovery and reconstruction can be assured. If we fail, it is much more likely to be through our own inability to act wisely than through the strength or skill of our enemies.



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For 130 years our name has been identified only with highly respected standards of workmanship and widely respected merchandise, either from the imported or domestic markets. Not only 130 years of reputation, but 130 years of Experience is going into our Suits, Topcoats—in fact, everything in our store today.

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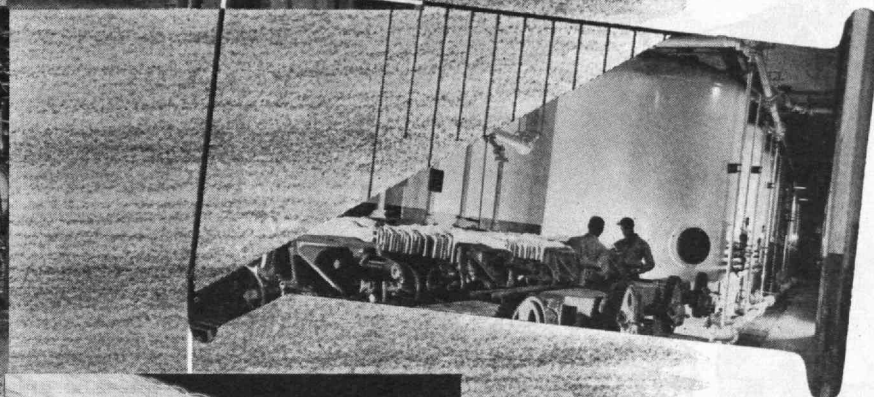
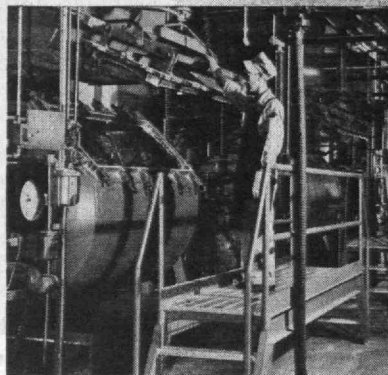
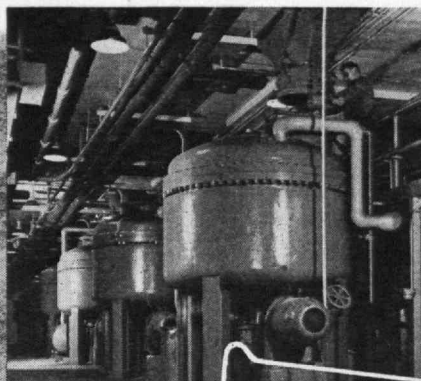
111 BROADWAY, NEW YORK 6, N. Y.

46 NEWBURY STREET,  
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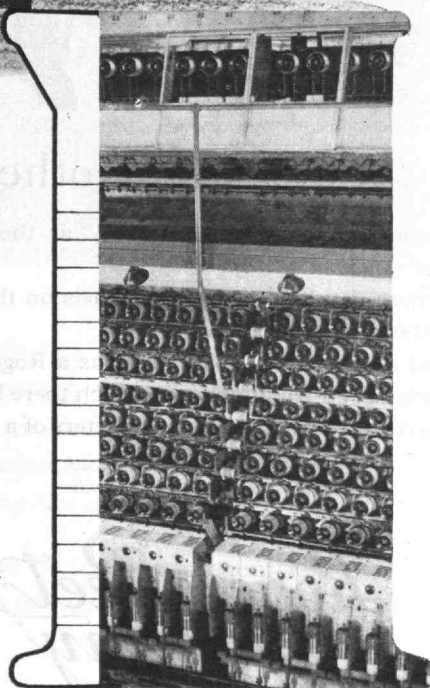
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## WORLD ENERGY AND WORLD PEACE

(Concluded from page 496)

It is no accident that the daily production of petroleum in the United States is about seven times that of Russia. It is the American political system which has made such creative developments possible by releasing human energy.

As we look out over the world and ask ourselves how we can help the people of the world to achieve a standard of living which will afford a better climate for world peace, we must not ignore the fact that our own achievements took place in a political climate favorable to initiative and encouraging to the individual. It is by no means certain that the American people could duplicate their accomplishments under less encouraging conditions. It is by no means certain that anyone else can approximate such achievements without turning away from State-ism and toward freedom for the individual. I think our government is entitled to take that into account as it works to help foreign peoples. It seems to me certain that men must become increasingly free throughout the world, and individually must have increasing opportunities, if we are to achieve our material goals on a world scale. The force which lies in coal and oil and all the other forms of energy must be unlocked by the ceaseless enterprise of countless men and women driven by hope, drawn by opportunity, and free to act.

What we are all seeking is not a Pax Romana. That was a peace of exhaustion. What we are seeking today is a creative solution of the world's ills — conscious for the first time that man can exist in a single, world-wide society. Dr. Toynbee has made us aware that 20 civilizations have already existed on the face of the earth and that all of them except our own (he says "*possibly* our own") have failed to meet the challenge to solve the two eternal problems of war and class which, separately or together, have killed off all other civilizations. I think a society of free men is the best way to defeat both war and class. Perhaps we may succeed where others have failed.

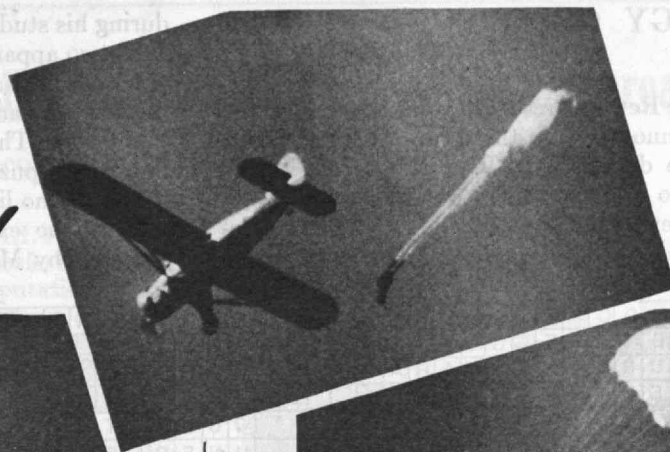
It seems to me that we have nothing to fear so long as we are creative. Previous civilizations have died when their growth and expansion met geographical limits and they could go no further. What appeals to Americans, however, is not geographical expansion. Conquest does not attract us. We are attracted more by the creative opportunities which lie in sociology, technology, research, invention, and machines. I am not sure but what we may be the first great nation of the world to see clearly that high standards of living for others, are good for us; that any kind of slavery is a curse for master as well as it is for slave.

The "Logistics of Peace" raises no energy or raw material problems which cannot be solved, if we can expand opportunity in the world. The primary energy that the world needs, is energy of the human spirit. If we can break down the barriers of trade; if we can move continually away from independence toward interdependence; if we can use less and less often the devices of monopoly, public or private; cartels, and government restrictions on opportunity; if we can work continually toward a world society built upon the rights of the individual, I see no reason why we may not at last succeed, within the lifetimes of our grandchildren, in achieving a world civilization with a world peace.

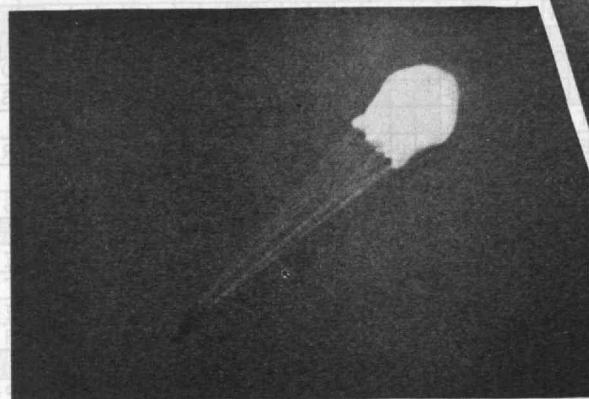


# THE ELASTIC SHROUD LINE THAT LITERALLY

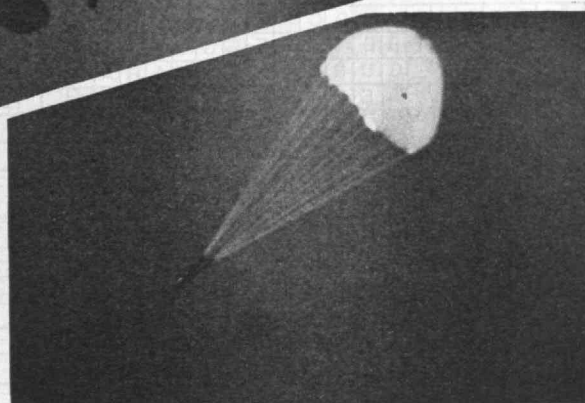
## *Springs into ACTION!*



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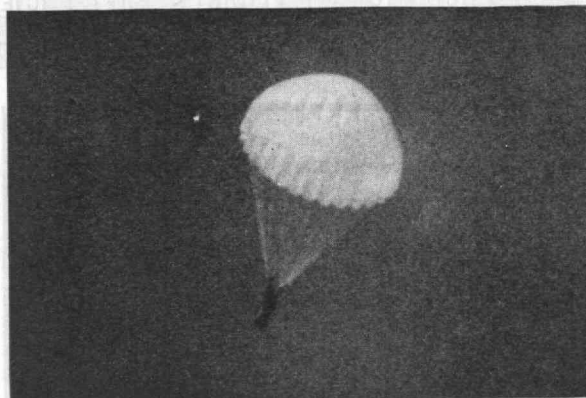


2 - PICKING UP THE LOAD, LINES  
ELONGATING

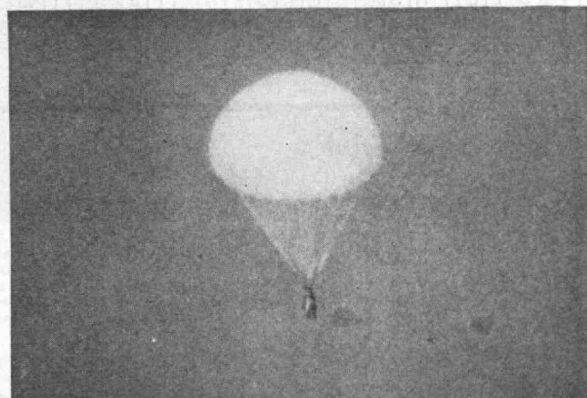


3 - SHOCK DISSIPATED, LINES RE-  
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5 - STABLE DESCENT



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## TECHNOLOGY CROSSWORD PUZZLE

LAST month The Review presented what is, for it, something of an innovation in the form of a Technology Crossword Puzzle designed by John M. Keck, '23. Of unusual interest to Review readers was the fact that the design obviously exhibited some of the letters and symbols to which every M.I.T. graduate has been exposed

during his study of science or engineering at the Institute.

Not so apparent in the original diagram were a host of other terms and abbreviations whose locale is distinctly that of Massachusetts Avenue and the Charles River in Cambridge. These appear in the diagram below as a solution to the puzzle.

Those who like to check the results of their work with that of the experts will find comfort in the diagram, prepared by Mr. Keck, and reproduced below.

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# Office Lighting Like Medicine is Truly at the Crossroads

By George Ainsworth, M.S., M.I.T., 1904

Professor Parry Moon '27 at M.I.T. and Dr. Domina Eberle Spencer '39 have perfected a revolutionary method of lighting computation, which can be used by practising engineers in designing high quality illumination for rooms where close work requires constant clear vision — (Delos 100%\*).

The concept is founded on the interfection of units of light within the surfaces that enclose areas of any size. Illumination by this new system, at levels involving prudent expense, has the serenity and grandeur of natural light interflected by the sky, Fig. 1. The traditional assumption that the excellence of office lighting can be appraised by footcandles, is a persistent misconception, which has created a grave problem for management employing large staffs in huge working areas. The results have caused much dissatisfaction. Fig. 2.

Medicine has come to a respectable place in the world through the gradual elimination of loose practise, humbug and quackery. The lighting engineers of tomorrow will reach the respectable status of PREVENTIVE MEDICINE by striving for a scientific simulation of such levels of natural light, Delos 100%, as can now be duplicated with fluorescent lamps. There is no substitute for reality when it comes to physical well being. This new science avoids the injurious apparition of concentrations of light, Fig. 2, to which the old footcandle art aspired in reaching "the highest coefficient of utilization." This threadbare mechanistic conception, cannot be reconciled with the physiological requirements of the eye. Paradoxically, the highest utilization is the exact cause of blurred vision.

Footcandle levels as an appraisal of excellence are meaningless unless achieved by total interfection, called SPATIAL illumination. Eyesight is best served by a simulation of nature's spatial lighting at levels between twenty five and a hundred and fifty footcandles (lumens per square foot). At such intensities, natural light is delightfully free from shadow, because the origin of the radiation is a luminous continuum in the overhead, Fig. 3. The Ainsworth SPACIALITE (pat. 2,346,717) covers the artificial method of simulating the essential characteristics of natural light at the lowest cost.

## AINSWORTH LIGHTING, INC.

Consulting Engineers  
On Office Lighting

\*See LIGHTING DESIGN by Parry Moon and Domina Eberle Spencer, published by the Addison-Wesley Press Inc., Cambridge 42, Mass.

### EFFECTIVE LIGHTING

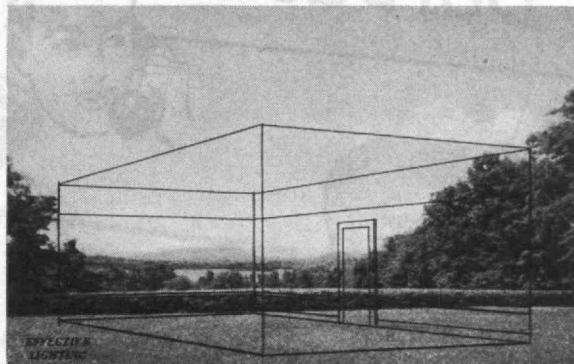


FIG. 1. The revolutionary procedure to achieve ideal illumination is to simulate a comfortable landscape panorama at the moment of daylight to be reproduced artificially. An imaginary room is indicated by transparent planes forming the walls and ceiling of the area to be built indoors. This natural light is shadowless, because its origin is caused by interfection in the atmosphere. Direct sun rays appear only at very much higher levels.

### DEFECTIVE LIGHTING



FIG. 2. The old art to achieve the highest footcandles with the least wattage, is based on squirting units of light from spaced sources, instead of radiation by interfection from the entire visual field. The sensitivity of the retina is dulled because of the heterogeneous bright and dark overhead. Direct rays are reflected to the eye causing the image to be overlaid; vision is blurred. The lighting is unsatisfactory.

### SUPERB LIGHTING

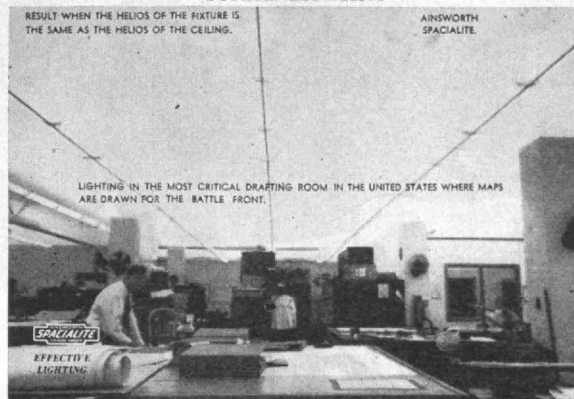


FIG. 3. The luminous continuum of the overhead simulates nature's light source. The light is spatial, it is entirely diffuse, because it is emitted in uniformly small amounts from the entire artificial sky, in this case, the ceiling of the room.

When management appreciates the value of light finishes on lockers, letter files and walls, the seeing conditions in such rooms will show a marked improvement.

As engineers better understand the principles of interfection set forth in the new textbook, LIGHTING DESIGN, the visual environment will approach the grandeur of natural light to which the eye was adapted by evolution outdoors.

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No rub-in



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Leon P. Brezinski, '29  
Richard L. Berry, '30

Use it also for soothing relief of  
sunburn, windburn, insect bites, itching

## DEFENSE, CO-OPERATION, PEACE

(Concluded from page 498)

if the time is not ripe for the cultivation of an attitude of mind, without which the achievement of those purposes may be impossible. Can we not meet the demands imposed by the present-day situation through approaching social and political problems in the same way that we have been dealing so successfully with the world of things? This would mean that, in striving for peace and prosperity, we must be open-minded and venturesome. We must rely on knowledge, and avoid emotion. We must think in terms of cause and effect, rather than in terms of causes and slogans. We must proceed with care, but boldly discard unworkable hypotheses. We should not resist change when change would bring us nearer the goal. Perhaps, above all, we must learn to prize the possession of personal and intellectual freedom, which is apt to be ignored because we, on this continent, have it in abundance.

After this excursion, which I hope may have something to do with the subject, may I now consider very briefly a few of the problems of 1948. A few years ago there seemed to be some hope of progress toward Wendell Willkie's *One World*. For the present, however, this hope is clearly denied. Another road toward peace must be sought. Should we not try to match the promise of economic restoration contained in the Marshall Plan, by a political effort of similar magnitude and vision?

Perhaps the time has come when serious thought should be given to the organic grouping together of the North Atlantic community. This idea is, in fact, suggested in a resolution which, I understand, is now being considered by the United States Senate, of which one objective is: "Association of the United States by constitutional process with such regional and other collective arrangements as are based on continuous and effective self-help and mutual aid, and as affect its national security." Such a step would offer the members of the North Atlantic community a greater measure of political security, and at the same time permit speeding the process of economic reconstruction throughout the democratic world.

This free association of free nations might, in the beginning, take the form of multilateral treaty of mutual assistance containing provisions for closer political, economic, and cultural co-operation, somewhat along the lines of the Brussels Treaty. In this atmosphere, the establishment of the beginnings of a genuine international legal order might be possible. Through economic co-operation, long strides could be taken toward the goal of higher living standards. Further than this, the universality of the United Nations and the aim of an eventually united world would not have to be sacrificed. The Atlantic community could formally come into being within the Charter of the United Nations under Article 51. The practical pursuit of a big ideal would help dissipate what James Reston recently described as the "curious present sense of fear" which prevails to some extent in the Western world. Its pursuit might well result in the wholehearted rejection elsewhere of the police-state philosophy, for what it is — a soul-destroying affliction born of apathy, doubt, and despair.

We have had enough of wars to end war. The present duty is to direct all our resources toward making a peace to end war.





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coffee in either tin or  
glass containers — Drip  
and Regular Grind.**

## URGE FOR A BETTER LIFE

(Continued from page 505)

universities, in any one of which I would have gladly cast my lot. I wrote 40 of the best letters which I could compose, applying for a position and setting forth my experience. The net result of these 40 letters of application was one offer of an instructorship at \$600 a year. I felt very discouraged but finally the problem was solved.

Then I had a letter from one of my former professors at Princeton saying that he had recommended me for an assistant professorship at Yale University, and suggesting that I send in an application. I did so and at the same time wrote to the head of the Physics Department of Princeton asking if he would support my application. The result was that I got no offer from Yale, but I was offered a job on the faculty at Princeton which I gladly accepted. Finally, the chain of circumstances which landed me at M.I.T. involved, up to the very end, not the least thought, or even suspicion on my part, that this was to be my fate.

These experiences, plus many observations which I have had the opportunity of making in more recent years, have convinced me that there are some factors about securing a better job that are very important. The first is not to be too easily discouraged, and to this I should probably add the observation: "Don't be too overconfident." But the big lesson which I have learned through experience and observation is that if a job is continuously well done there will ultimately be far more people look-

(Continued on page 548)

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## URGE FOR A BETTER LIFE

(Continued from page 546)

ing for you, and probably with more anxiety to get the services of some one like you, than any anxiety which you may have in looking for the job.

The feature which most impresses me in observing the filling of important positions is the fact that the determining factor is so often a characteristic which a candidate may frequently overlook. Perhaps I can best describe what I mean by saying that, after assuming that a man has made a good record of competent performance, the men who are really in demand and who are picked for the more interesting jobs are those who have a record of having given more of their services than they were paid for, given either to their employer or in outside activities in the community. I have seen this happen over and over again. For example, in Washington during World War II, many hundreds of outstanding men went there to serve in important posts for a dollar a year or less. Most of these men already had a background of service on various kinds of jobs, often exacting and unpleasant, on government committees, national associations, chambers of commerce, councils, and so on. They were men who had done something that put them in the category of giving more in the way of service than was required by the terms of their position. I think it is because of this quality that men of this character are so generally found in the most important and influential positions.

Consider now the urge to create, which is very basic. It is this which distinguishes a productive member of society from a social parasite. The basic importance of creative activity is implied in the reference which theologians of all religions so commonly use in describing God as the Creator. One of the major goals of education is to develop ability to create and one of the major features of a job is that it provides the opportunity to create. It is in this sense that the urge to create is more basic than the urge for education or the desire for a better job. If the creative urge is properly handled and developed, then matters of salary or advancement become secondary and generally take care of themselves. Fortunately there are many outlets for creative work, and for college graduates these run the entire gamut of business, manufacturing, financial service, engineering practice, architecture, law, medicine, agriculture, creative scholarship, education,—including every category of service required in all these operations and also including the supremely important job of homemaking.

Perhaps it is fortunate that no one of these various outlets for creative work is so appealing that all young people desire to go into the same line of activity. What a world it would be if, for example, all young men went into business. It would be as bad as if all young men wanted to marry the same girl, or if everybody wanted the same type of religion. Fortunately such extremes are avoided because people are just naturally of so many different types of character and ability. Some activities have a logical and emotional appeal to some people and not to others. Inevitably there is a great variety of outlets for this creative urge which is so fundamental to education and to success in any line of activity.

Finally, to sum up some of these thoughts very briefly, I think that all that I have tried to say can be summed

(Concluded on page 550)



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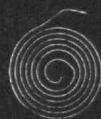
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**URGE FOR A BETTER LIFE***(Concluded from page 548)*

up by quoting a verse from the Bible. I would preface this quotation by asking you to interpret it broadly. Think of the "Kingdom of God" not in terms of any specific theological doctrine but in the broad sense of a better life, emphasizing those aspects of sympathy, helpfulness, and service which were taught and exemplified by Christ. The verse is: "Therefore take no thought, saying what shall we eat? Or what shall we drink? Or wherewithal shall we be clothed? But seek ye first the Kingdom of God and his righteousness and all these other things shall be added unto you."

In the urge for a better life, which is the distinctive characteristic of the human race, the urge for education, the urge for a better job, and the urge to create are very important features. They are features which are particularly significant in connection with the educational program on which you have been engaged. But I hope that you will have carried away from this address the thought that neither education, nor a high salary for a job, nor any other feature of living is as important as doing a creative job which is of real service in the direction of a better world. "Therefore take no thought, saying what shall we eat? Or what shall we drink? Or wherewithal shall we be clothed? But seek ye first the Kingdom of God and his righteousness and all these other things shall be added unto you."

I would say finally that we who have come to know you during the past few years have worked with you with confidence in your ability to accomplish the type of life which we hope that you may achieve. We have confidence because we have seen this accomplished by others who have gone before you with similar backgrounds, training, and ambitions. And so, as you go forth, I bid you, in the name of the staff and of the Corporation and of the alumni body of this great institution, our best wishes and Godspeed.

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# TECHNOLOGY MEN IN ACTION

THE ALUMNI FUND—ITS PROBLEMS AND GROWTH

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## *Unfinished Business*

Summer is here. At the Institute another group of men have been graduated to take their places beside you who have gone before. Alumni Day is over, one of the most successful yet. Reunions have come and gone, bringing home to each of us the fact that these milestones seem to come with increasing frequency.

To many of you, summer means the end of another business year, or at least it is a break of sorts. If you are one of that fortunate group who find it possible to take a breather during the weeks ahead, before you leave your desk temporarily, is there one item of unfinished business? Have you sent in your contribution to the ninth annual Alumni Fund?

You who get *The Review* do so because you contributed last year. Some six thousand of you have already given this year, but that leaves four thousand who have not. Those who were fortunate enough to hear President Compton's report at the Alumni Banquet know how urgent are the Institute's needs. Why delay longer? Why not send in your Fund contribution now? It will be one less item to be attended to when you return from vacation.

# TECHNOLOGY MEN IN ACTION

## M.I.T. MEN AT WAR

### FOR DISTINGUISHED SERVICE

#### U.S.A.

- 1907 Walsh, James L., *Col.*, Distinguished Service Medal.
- 1914 Wood, John E., *Brig. Gen.*, War Cross of Valor (2); Order of the Crown, Italy; War Cross of Merit, Italy.
- 1916 Woolley, Charles H., *Col.*, Legion of Merit.
- 1917 Nelson, George A., *Lt. Col.*, Bronze Star.
- 1918 Wheeler, Herbert B., *Col.*, Oak Leaf Cluster to Legion of Merit; Bronze Star.
- 1921 Humphrey, Watts S., *Col.*, Bronze Star.
- Noce, Daniel, *Maj. Gen.*, Legion of Merit; Order of the Bath, Great Britain; Legion of Honor, Croix de Guerre with Palm, France; Order of the Crown of Italy, Medal of the Volunteers of Liberty, Italy; Order of Military Merit, Brazil; Gold Cross of Merit with Swords, Poland; Order of the Crown of Belgium; Lateran Cross of the Vatican State.
- Quinton, Alfred B., Jr., *Brig. Gen.*, Distinguished Service Medal; Purple Heart; Commander, Order of the British Empire; Etoile Noire of the Legion of Honor, France.
- Skinner, Richmond H., *Lt. Col.*, Legion of Merit.
- 1922 Chmiell, Stanley, *S. Sgt.*, Purple Heart.
- Dickson, Benjamin A., *Col.*, Distinguished Service Medal; Legion of Merit; Bronze Star; Purple Heart; Legion of Honor; Croix de Guerre.
- Pew, Walter C., *Col.*, Legion of Merit; Croix de Guerre with Palm; Medaille de Verdun.
- Warren, Ross B., *Col.*, Legion of Merit; Bronze Star.
- 1923 Ruddell, James C., *Col.*, Legion of Merit.
- Schweizer, Albert C., *Maj.*, Bronze Star.
- Sears, Robert, *Col.*, Silver Star; Legion of Merit; Bronze Star (2); Chevalier, Legion of Honor, France; Croix de Guerre; Commander, Order of the Crown of Italy.
- Zornig, H. H., *Col.*, Legion of Merit (2); Soldiers Medal.
- 1924 Billings, Franklin O., *Sgt.*, Silver Star (2).
- Stewart, George W., *Col.*, Purple Heart.
- Wells, Gordon M., *Brig. Gen.*, Distinguished Service Medal.
- Wilson, Vennard, *Col.*, Distinguished Service Medal; Legion of Merit.
- Zartarian, Sarkis M., *Col.*, Purple Heart.
- 1925 Small, Louis, *Capt.*, Bronze Star.
- Watts, Newell E., *Lt. Col.*, Bronze Star.
- 1928 Weinberg, Hyman, *Lt. Col.*, Special Breast Order of Yun Hui, China.
- 1929 Osgood, Richard E., *Capt.*, Purple Heart.
- Tammaro, Alfonso, *Lt. Col.*, Legion of Merit.
- Vieweger, Arthur L., *Maj.*, Bronze Star.
- 1930 Devarmond, Albert B., *Col.*, Bronze Star.
- Schulgen, George F., *Brig. Gen.*, Legion of Merit.
- 1931 Hastings, Julian P., *Pfc.*, Bronze Star.
- Turner, Charles W., *Lt.*, Bronze Star.
- 1932 Merrill, Frank D., *Maj. Gen.*, Distinguished Service Medal; Legion of Merit (2); Bronze Star; Purple Heart (2); Order of the British Empire; Legion of Honor, Philippines; Cloud Banner, China.
- Person, John L., *Col.*, Medaille de Reconnaissance, France.
- Renshaw, Clarence, Jr., *Col.*, Oak Leaf Cluster to Legion of Merit.
- Seleen, Paul M., *Col.*, Legion of Merit; Order of the British Empire; Commander, Crown of Italy.
- Speir, Frank W., *Lt. Col.*, Legion of Merit; Purple Heart; African Star, Great Britain; Italian Star.
- Williams, Myron L., *Lt. Col.*, Order of the British Empire.
- 1933 Walters, Stanley H., *Lt. Col.*, Legion of Merit.
- Wiley, John R., *Lt. Col.*, Bronze Star.
- 1934 Ballantine, David, *W.O. (j.g.)*, Bronze Star.
- Quinn, Horace A., *Col.*, Bronze Star.
- Saint, Kelsey Y., *S. Sgt.*, Bronze Star.
- Sweeney, George P., Jr., *Capt.*, Bronze Star.
- 1935 Hansborough, John W., *Col.*, Bronze Star, Italy; Croix de Guerre, France.
- Thorpe, John, *Lt. Col.*, Bronze Star; Chevalier de l'Ordre de Grand Ducal et Coronne de Chene, Luxembourg.
- 1936 Krey, Roger A., *Plt. Off.*, Air Medal; Purple Heart.
- Souder, James J., *Lt. Col.*, Legion of Merit.
- Steele, Ernest W., *Maj.*, Bronze Star.
- Terry, Thomas A., Jr., *Capt.*, Purple Heart.
- Tripp, Robert C., *Col.*, Legion of Merit; Order of Leopold, Belgium; Cross of Lorraine, Medal of Merit, Czechoslovakia.
- Wold, Torgils G., *Col.*, Legion of Merit; Bronze Star; Air Medal.
- Wuomaa, Lennart, *Capt.*, Bronze Star.
- 1937 Cree, Edna M., *Maj.*, Bronze Star.
- Stern, Harry S., Jr., *Maj.*, Bronze Star; Medaille de la Reconnaissance Francaise.
- Wood, Floyd B., *Col.*, Air Medal; Commander, Brazilian Aeronautical Order of Merit.
- 1938 Cagwin, Leland G., *Lt. Col.*, Distinguished Service Cross; Silver Star.
- Martin, Edward P., *Maj.*, Bronze Star.
- Olsson, Carl A., *Plt. Off.*, Air Medal (2).
- Schlansker, Howard I., *Lt. Col.*, Legion of Merit.
- Thayer, Henry C., *Col.*, Bronze Star.
- Tolman, Merrill E., *1st Lt.*, Bronze Star; Purple Heart.
- Vanderhoef, Dean T., *Lt. Col.*, Bronze Star; Purple Heart.
- 1939 Hansen, Floyd A., *Col.*, Legion of Merit; Order of Leopold with Palm; Croix de Guerre with Palm.
- Rebori, Andrew P., *Maj.*, Distinguished Flying Cross; Air Medal (2); Distinguished Flying Cross, Great Britain.
- Roehrig, Albert K., *Capt.*, Bronze Star (2).
- Sargent, Francis W., *Capt.*, Bronze Star; Purple Heart; Brazilian Medal of Honor.
- Schaller, Frederick F., Jr., *Capt.*, Bronze Star.
- Stewart, Herbert F., *Maj.*, Bronze Star.
- Stubbs, Marshall, *Col.*, Legion of Merit; Bronze Star.
- Zeiten, Joseph G., *Capt.*, Bronze Star.
- 1940 Blair, George A., *Capt.*, Bronze Star.
- Bush, Harry R., *Lt. Col.*, Bronze Star.
- Sedgwick, Harry K., *Capt.*, Silver Star; Purple Heart.
- Sullivan, Woodruff T., Jr., *Maj.*, Air Medal (3).
- Watts, Chester B., Jr., *Capt.*, Legion of Merit.
- Wheeler, Richard H., Jr., *Maj.*, Bronze Star.
- 1941 England, John L., *Maj.*, Distinguished Flying Cross; Air Medal.
- Freeman, Addison B., Jr., *Capt.*, Air Medal; Bronze Star; Order of White Cloud, China.
- Hansel, John E., *Maj.*, Bronze Star.
- Pook, Thomas N., *Maj.*, Bronze Star.
- Samuels, Howard J., *Lt. Col.*, Bronze Star.
- Sawler, Richard G., *S. Sgt.*, Bronze Star.
- Shapiro, Norman I., *Lt. Col.*, Knight Officer of St. George, Italy.
- Summer, Edwin V., 4th, *Maj.*, Soldiers Medal.
- Wilts, Ralph C., *Capt.*, Air Medal.
- 1943 Bates, Robert E., *1st Lt.*, Distinguished Flying Cross (2); Air Medal (4).
- Sullivan, William J., Jr., *Capt.*, Distinguished Flying Cross; Air Medal (2).
- Young, Henry T., *Capt.*, Air Medal.
- 2-44 Repetti, George M., *Maj.*, Bronze Star.
- Schuhle, Harold W., *Corp.*, Purple Heart.
- 10-44 Rowe, Robert F., *Lt.*, Distinguished Flying Cross; Air Medal (4).
- 6-45 Inman, Harry A., *1st Lt.*, Air Medal.
- 2-46 Shane, Presson S., *Maj.*, Air Medal (7).
- Widman, John L., Jr., *Sgt.*, Bronze Star; Purple Heart.
- 6-46 Woodburn, James, Jr., *Lt.*, Air Medal.
- 9-46 Anderson, John R., *Lt.*, Bronze Star.
- Estelle, Weems E., *1st Lt.*, Air Medal.
- Horne, Shaffer E., *Lt.*, Air Medal (5).
- MacDonald, Frederick M., *Pfc.*, Bronze Star; Purple Heart.
- Parks, Martin C., *Capt.*, Bronze Star.
- Sawyer, James H., Jr., *Capt.*, Bronze Star.
- 1947 Eagleton, Lee C., *Lt.*, Bronze Star.
- Gould, George D., *Maj.*, Bronze Star.
- Grekol, Howard, *Capt.*, Air Medal.
- Helin, Arthur F., *Plt. Off.*, Distinguished Flying Cross; Air Medal.
- Kahl, DeLoss, Jr., *Capt.*, Bronze Star.
- Kennel, William E., *Capt.*, Silver Star (2); Purple Heart; Croix de Guerre.
- Schwartz, Martin D., *Lt.*, Air Medal.
- Sibeck, Leonard G., *Maj.*, Bronze Star (2).
- Taylor, David W., *Lt.*, Air Medal (5).
- Warren, Sam F., *Maj.*, Silver Star; Bronze Star.
- White, Harlow H., *1st Lt.*, Air Medal.
- Yocom, John E., *Sgt.*, Purple Heart.
- Zwemer, Howard A., *Lt.*, Air Medal (5).
- Schumacher, Theodore L., *Capt.*, Legion of Merit; Order of the Southern Cross, Brazil.
- 1922 Beatty, Frank E., *Rear Adm.*, Order of Orange-Nassau with Swords, Grand Officer, Netherlands; Order of Southern Cross, Commander, Brazil.
- Lamont, Peter T., *Comdr.*, Legion of Merit; Bronze Star; Croix de Guerre with Gold Star.
- 1923 Watt, Richard M., Jr., *Commo.*, Legion of Merit.
- 1925 Vose, William C., *Capt.*, Legion of Merit; Bronze Star.
- 1926 Whitaker, Francis H., *Capt.*, Legion of Merit.
- 1927 Webb, Leland D., *Capt.*, Legion of Merit.
- 1928 O'Brien, Timothy J., *Capt.*, Bronze Star; Officer, Order of the British Empire.
- 1929 Sexton, Whitney G., *Lt.*, Purple Heart.
- 1930 Orville, Howard T., *Capt.*, Legion of Merit; Officer, Order of the British Empire; Yun Wei, China.
- 1932 Snyder, Philip W., *Capt.*, Legion of Merit.
- 1934 Leahy, William H., *Capt.*, Legion of Merit.
- 1935 Conner, J. Preston, *Lt. Comdr.*, Bronze Star.
- 1937 Tuttle, David F., Jr., *Lt.*, Bronze Star.
- 1940 Dodson, Joseph E., *Capt.*, Bronze Star.
- 1942 Lambert, David, *Comdr.*, Bronze Star (2).
- 1943 Schultz, Paul G., *Comdr.*, Bronze Star.
- 9-46 Shackford, Robert W., *Lt.*, Distinguished Flying Cross (3); Air Medal.
- 1947 Frantz, David H., Jr., *Ens.*, Distinguished Flying Cross; Air Medal (2).
- Townsend, Edward M., *Lt.*, Air Medal (2).

#### U.S.M.C.

- 1925 Miller, Ivan W., *Brig. Gen.*, Legion of Merit.
- Want, Paul P., *Capt.*, Bronze Star.
- 1938 Landen, Hains, *Capt.*, Purple Heart; Silver Star.

#### BELGIUM

##### Army

- 1928 Eeman, John L., *Capt.*, Defense Medal, Great Britain.

#### BRAZIL

##### Navy

- 10-44 Pereira Pinto, Francisco F., *Lt. Comdr.*, Brazilian War Medal.

#### CANADA

##### R.C.A.

- 1923 White, Gerald L., *Lt. Col.*, Officer of Orange and Nassau with Crossed Swords, Netherlands.

#### CHINA

##### Army

- 1936 Chu, Sung W., *Col.*, First Army and Navy and Airforce Medal; Victory Medal; Kwanhua Medal.

#### FRANCE

##### Army

- 1937 Pérouse, Maurice J., *Lt.*, Croix de Guerre.

#### GREECE

##### Royal Navy

- 10-44 Antoniadis, Panavottis D., *C.P.O.*, Distinguished Service Medal.



## NEWS FROM THE CLUBS AND CLASSES

## CLUB NOTES

*M.I.T. Club of the Miami Valley*

Reports from here have been scarce since our genial Secretary, Cliff Muzzey '41, moved back to Boston and left the Club without a Secretary for a while. The post-war shift has been exceptionally heavy in this district because of the large percentage of military membership. The occasional meetings have centered around visiting members of the faculty or local employment conditions.

A determined effort has been made of late to put the Club back on the old-time regular footing. The movement seems to be successful. Three monthly meetings have been held, and the fourth is scheduled. The dinner hours are devoted to the social side; the evenings feature a speaker of general interest. The attendance has been averaging about 30. The February meeting, when Professor B. A. Thresher '20 made his report on conditions and plans at M.I.T., drew a crowd. The next two meetings had a smaller attendance, but the enthusiasm continued. The speaker of the March meeting was R. B. Kurfiss of the bureau of fire prevention of the City of Dayton, Ohio, and the group did not disperse until the building was locked up for the night. The excellent pictures taken during and after recent major fires added interest to the talk. We all went home ready to clean up some of the fire hazards at home and office. For the April meeting, Dr. Robert S. Shaw '42, an Army captain and one of our own group, talked on the researches conducted at the aeromedical laboratory of Wright Field, on the effect of high accelerations on the human body and preventive measures to avoid ill effects. When one of the Bio-physics men can hold several Course XV men after the meeting, he must be good. Much of the success of the meetings is due to the excellent Engineers Club of Dayton, which provides a satisfactory meeting place at a central location, and, above all, to our local representative, Mike Gibbons '06, who is always ready to help.

The April meeting included an election of officers. The new chairman is E. F. Rossman '18; the new Secretary, John T. Shuttack '43. Such an energetic team is sure to succeed.

After a term of several years, your present chairman retires. It has been fun and the effort well compensated for by the honor. But it will be pleasant to enjoy the meetings and the fellowship of those present, without worrying about the many details. Here is wishing the new officers good luck! — EUGENE HERZOG '27, Chairman, 26 Cliff Street, Dayton 5, Ohio.

*M.I.T. Club of Shanghai*

The Club lists 145 members, of whom only 60 actively participate in our gatherings. It is probable that more will attend

when the general situation in Shanghai returns to normalcy. Nine meetings were scheduled for the present year. Compared with the Shanghai alumni clubs of other colleges, we already have the highest percentage of attendance and the most frequent regular meetings. — VINCENT S. HYUI '37, Secretary, American Engineering Corporation, 985 Nanking Road, West, Shanghai, China.

*M.I.T. Club of the Connecticut Valley*

The Club met at Blake's Restaurant on Market Street, Springfield, on May 12 at 6:30 P.M. for a full-course steak dinner and the annual meeting with election of officers. At the head table were seated Ted Lange '01, program chairman; Al King '32, President of the Club; Harry A. Oltsch, the guest speaker; and Minot Edwards '22, Secretary. The President introduced Ames Carter '87 of Chicopee, our oldest member, and other guests. The Secretary reported that he had correspondence from Charlie Locke '96, Alumni Secretary, calling attention to Alumni Day on June 12 at Cambridge and the dinner at the Statler Hotel in the evening. The Institute also requested that we call attention to a condition always present in cycles of tighter business wherein the number of individual contributing members of the Alumni Association had dropped, although the average size of and total volume of alumni gifts has gone up. They want more individual gifts even if of small amounts.

The President expressed satisfaction at the attendance of a number of Alumni who had never before been to a club meeting. He reported a paid membership of 60 per cent of all Alumni resident in the district and a treasury larger than at any time in the history of the local club. Ted Lange, the membership chairman, reported 158 paid-up members. The nominating committee, of which Bob Albro '07 is chairman, then presented the following nominations for officers for 1948-1949: President, Minot Edwards '22; Vice-president, Basil G. Constantine '26; Secretary, Albert M. Lovenberg '16; Treasurer, Thomas W. Hafer '35; Executive Committee, Alfred G. Payne '33, for three years; Theodore F. Lange '01, two years; and Willard A. Emery '21, one year. These candidates were duly elected. The President made the following appointments: in charge of publicity, Robert J. Marlow '17; employment, William J. Harris '30; sick and service members, Maurice D. Triouleyre '32; membership, Theodore F. Lange '01.

Harry A. Oltsch, Vice-president of the Springfield Better Business Bureau and a director of the Chamber of Commerce, gave the Club a very interesting talk concerning the aims and accomplishments of Better Business bureaus in general, with specific examples from the experience of the Springfield bureau. The Springfield newspapers gave prominent notice to the meeting and Mr. Oltsch's talk.

The following members were present: Robert C. Albro '07, N. P. Ames Carter '87, William Devine, Jr. '42, Minot R. Edwards '22, William J. Harris '30, S. J. Hayes '19, K. W. Joseph '44, Albert D. King '32, T. F. Lange '01, Albert M. Lovenberg '16, Robert Q. McDonnell, Jr. '40, Charles T. Murray '47, Alfred G. Payne '33, Lewis J. Powers '23, Maurice D. Triouleyre '32, Willard D. Leshure '22, John Kapinos, Robert J. Marlowe '17. William J. Harris has recently been made vice-president of the American Bosch Corporation. — ALBERT M. LOVENBERG '16, Secretary, Edlee Distributor, Inc., 65 Main Street, Springfield, Mass.

*M.I.T. Club of Central New York*

Alumni of central New York were offered two opportunities to get together during the month of May. On May 5 at Syracuse University, Marshall W. Jennison '27 of the department of plant sciences there, made possible a talk on "Bacterial Warfare and the Problem of Peace" by Theodore Rosebury, associate professor of bacteriology at Columbia University in the college of physicians and surgeons. During the war, Dr. Rosebury was at Camp Detrich, Maryland, in charge of investigations in experimental air-borne infection. Impressed with the social implications of his work, Dr. Rosebury talked about the possibilities of bacterial warfare and the issues involved in using this science for destructive purposes.

On May 13 the Club held a regular dinner meeting at the University Club in Syracuse. Harry C. Durston, Onondaga County historian, was guest speaker. The year 1948 is the 100th anniversary of the City of Syracuse. In celebrating this centennial year, Major Durston spoke on the history of Syracuse and central New York. Indian lore, romance of the Erie Canal days, industrial ventures past and present, and accounts of early political activity provided a most interesting evening.

Plans were discussed for holding a club outing later in the season at D. W. Diefendorf's home at Cazenovia Lake. Alumni present included the following: Walter E. Hopton '91, Harry N. Burhans '07, Herbert G. Reynolds '10, Arthur E. Meling '22, Gerald A. Fitzgerald '23, Fred S. Hungerford '24, Elmer C. Hughes '31, Elliot L. Whitaker '31, G. Russell Eddy '32, D. Earle MacLeod '38, Joseph F. Owens, Jr. '40, Donald L. Kidd '42, Richard H. Gould '42, Martin E. Schoeffter '48. — JOHN J. FREIBERGER '45, Secretary, 1917 West Colvin Street, Syracuse 7, N. Y.

*M.I.T. Club of Albany*

F. Reed Dallye '22 was elected president at the annual meeting held at the Hotel Wellington on May 10. Other officers elected at this time to serve during the year 1948-1949 were John F. Longley '33, Vice-president, and G. Colburn Myrick '25, member of the board of governors for a term of

three years. Others present were William A. Canada'12, Frank C. Gilson'24, Harold F. Hedberg'20, Philip D. Jones'47, Charles W. Rankin'31, Burt R. Rickards'99, Alexander J. Rokicki'25, George W. Schaible'30, Irwin J. Smith, Jr.'22, and Warren A. Wilber'34. Reed Dallye, the new President, is with the Aluminum Company of America in its sales office in Albany. Continuing our series of meetings at which our own members are the speakers, Dallye, after showing a movie entitled "This is Aluminum," told an interesting story of the aluminum industrial development. — **GEORGE W. SCHABLE**, Secretary, 158 State Street, Albany, N. Y.

### *M.I.T. Club of the Lehigh Valley*

On May 6, the Club brought to a close its first year of activity by honoring Dr. Compton, re-electing its officers, and meeting jointly with the Engineers Club of the Lehigh Valley to hear an address by the M.I.T. President. Earlier in the day, Martin D. Whitaker, President of Lehigh University, officially welcomed Dr. Compton to the Lehigh Valley at a luncheon held at the Saucon Valley Country Club. Gathering prominent industrial and civic leaders, Dr. Whitaker paid tribute to our President and reflected the esteem held for the Institute by the several colleges and universities of the Valley. E. G. Grace, chairman of the board of the Bethlehem Steel Company, proclaimed the services rendered by the Institute to the nation and particularly to the steel, coal, and textile industries that thrive in this part of the country.

At the annual meeting, our Club President, E. J. Flynn'19, announced the results of elections, stating that the President, Vice-president (P. V. Cogan'13), and executive committee members (L. H. Cutten'07, E. C. Peterson'37, George Farnell'41) had all been re-elected for another term of one year. C. H. Herty, Jr.'21, the Club's official host, then introduced Dr. Compton, who reviewed recent developments at the Institute. The meeting adjourned to the grand ballroom of the Hotel Bethlehem, where Dr. Compton addressed a joint meeting of the M.I.T. Club and the Engineers Club of the Lehigh Valley. More than 500 listeners heard Dr. Compton's review of the development of atomic fission from alchemy to present-day atomic power.

The 53 Technology men attending these meetings were as follows: W. A. Hazard'99, F. C. Waddell'99, Hubert Merryweather'04, F. M. Fuller'06, L. H. Cutten'07, H. R. Wilbur'10, B. V. Reeves'12, Allison Butts'13, P. V. Cogan'13, C. W. Gotherman'13, L. A. Wilson'14, J. B. Carr'16, W. L. Denen'17, H. M. Cyr'18, G. F. Halfacre'18, Yale Evelev'18, E. J. Flynn'19, E. A. Richardson'19, O. P. Young'20, C. H. Herty, Jr.'21, W. G. Rapp'22, E. J. Ingram'25, C. R. Muhlenberg'25, H. T. Lyons'27, A. C. Smith'27, Henry Moggio'28, P. A. Lamb'29, B. W. Parker'33, G. F. Garcelon'33, O. A. Putnam'33, W. V. Bassett'39, J. P. Brosnahan'35, S. V. Fox'35, E. C. Peterson'37, A. F. Gould'38, W. K. Cutten'39, M. V. Herasimchuk'39, J. F. Libsch'40, J. S. Luckett'40, George Farnell'41, J. D. Briggs'42, W. M. Chow'42, R. T. Ol-

sen'42, Mindaugas Vizbara'44, E. J. Bielecki'45, J. E. Stryker'44, W. V. Zacharchuk'45, A. T. Yu'46, W. K. Adams'47, H. S. Graham'47. — **MICHAEL V. HERASIMCHUK**'39, Secretary, Post Office Box 495, Bethlehem, Pa.

### *M.I.T. Club of the Kanawha Valley*

June 1 was a great day in the life of this Club for that was the day of President Compton's visit. After his address at the commencement of West Virginia University in Morgentown, W. Va., Dr. Compton came to Charleston to talk to our young Club.

During the morning he marched in the academic procession at the commencement of Morris Harvey College here and then addressed a group of more than 100 West Virginia civic and industrial leaders at the college's commencement luncheon. Incidentally, Godfrey L. Cabot'81 received an honorary doctorate from Morris Harvey at these ceremonies. In the afternoon, through the efforts of William S. Brackett'23 and Irvine L. Murray'26, the President of the Institute was escorted through the synthetic rubber installations at Institute, W. Va., operated by the Carbide and Carbon Chemicals Corporation and the United States Rubber Company. Dr. Compton explained that although he had served on the Baruch Rubber Committee, he had never been through any of the plants he had recommended building.

Shortly before the dinner meeting, Dr. Compton and Dr. Cabot were entertained at the home of Mr. Murray at a cocktail party attended by the club officers and several prominent engineers from the Charleston area. As the climax of the day, the banquet at the Kanawha Country Club drew 150 guests, among whom were 53 Alumni of M.I.T., a large number of technical professional men from Charleston, and a good representation of wives. Presiding at the speaker's table was President Joseph C. Jefferds, Jr.'40. In addition to Dr. Compton and Dr. Cabot, the honored guests included the Rev. Leonard Riggleman, President of Morris Harvey College, the Hon. R. C. Andrews, mayor of Charleston, and Ernest Habicht, plant manager for E. I. du Pont de Nemours and Company, at Belle, W. Va. Also at the head table was the dean of Kanawha Valley Tech men, William Brewster'98, who was about to journey back to Tech for his 50th reunion. The Club was glad to welcome five Alumni from Huntington, W. Va., 50 miles to the west, who came over for the occasion.

Dr. Compton's address, entitled "Preparedness in Peace," was enthusiastically received. He stressed three factors that he considered vital for lasting peace: (1) a strong internal economy, (2) an enlightened international policy, and (3) adequate national defense. The meeting adjourned at 10:00 P.M. so that President Jefferds and your Secretary could rush Dr. Compton to his northbound train.

Active in the organization of the party were our Vice-President, Benjamin T. Woodruff'36, committeemen George B. Bradshaw, Jr.'40 and Richard P. Little'42, and two past presidents, Francis G. Davidson'22 and M. E. Hitchcock'37. Especially

able among the ticket salesmen were Thomas W. Bartram'21, Ray M. Durrett'29, Paul R. Des Jardins'38, and Howard P. McJunkin'43. — **DANIEL G. HULETT**'42, Secretary, 1595½ Quarrier Street, Charleston 1, W. Va.

### *M.I.T. Association of Cleveland*

The final formal meeting of the 1947-1948 season was held on May 19 at the Union Club. Professor Erwin H. Schell'12 presented his ideas on executive conduct and considerations for the future, which proved inspiring as he has a point of view which most people tend to forget in their everyday business activities. W. Trevor Holliday, President of the Standard Oil Company of Ohio, was an invited guest, but pressure of business made it necessary for Erling Helland'40 to explain the purposes and general organization of the United World Federalists. There was no doubt whatsoever of the sincerity of Helland's beliefs, and it appeared that the work of this organization appealed to many of those attending.

Officers for the coming year were elected: President, Willard G. Loesch'21; Executive Vice-president, George E. Merryweather'34; addition to the executive committee, Goodwin deRaimes'37, Erling Helland'40, and Richard H. Valentine'33. R. H. Smith'23 and William H. Robinson, Jr.'24 bowed out gracefully as president and executive vice-president, respectively, and it was the unanimous opinion that these two men had done a splendid job of inspiring us all toward a continuous and growing Cleveland Association.

Those in attendance were as follows: F. W. Crosby'90, H. B. Dates'94, C. W. Brown'99, A. C. Downes'04, Elliot Q. Adams'09, A. A. Gould'10, E. H. Schell'12, E. H. Weil'13, W. J. Winninghoff'14, H. W. Green'16, H. W. Ellis'16, E. N. Winslow'18, C. H. Reed'20, A. I. Bradley'21, W. G. Loesch'21, J. W. Gartland'21, E. R. Baldridge'22, C. H. Hubbard'23, O. N. Stewart'23, R. H. Smith'23, C. W. Cristall'23, W. H. Robinson, Jr.'24, E. H. deConingh'25, Harrison Browning'25, D. E. Elmendorf'26, Goodwin deRaimes'37, Frank Massa'27, H. P. Ferguson'27, T. J. Ewald'29, V. W. McDaniel'29, W. H. Waite'30, J. R. Bird'31, R. D. Knight'31, W. B. Tibbets'31, J. C. Rowe'32, R. H. Valentine'33, G. E. Merryweather'34, R. B. Jewett'34, C. H. MacFarland'34, R. F. Flood'35, C. C. Chase'37, G. R. Young'37, F. W. Reuter, Jr.'38, C. S. Parker'39, Erling Helland'40, J. B. Scalzi'40, J. W. Kraus'41, S. H. Willard, Jr.'42, W. D. Bowman'44, C. F. Lenhard'45, E. A. Reed'45, J. J. Strnad'45, R. G. Rauch'46, R. E. Oppenheimer'47, A. P. DiVincenzo'47, P. J. Gartland (guest). — **G. R. YOUNG**'37, Secretary, The Weatherhead Company, 300 East 131st Street, Cleveland 8, Ohio.

### *Rocky Mountain M.I.T. Club*

Our meeting on April 1, held in a private club in Denver, was very successful. Twenty-seven members came to dinner and heard Charlie Brokaw'22 give an enlightening talk on the "Colorado Council for Resources Development." It has been previously re-

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ported that Ben V. Howe'26 automatically succeeded to the presidency when E. A. West resigned. At our April first meeting this was officially confirmed by vote, and Allen I. Williams'37 was elected vice-president. Our next meeting was scheduled for May 20, and at that time the applicant to receive the regional scholarship was to be selected. — JOHN AYER, JR., '36, Secretary, 1263 South Jackson Street, Denver, Colo.

### *M.I.T. Club of Milwaukee*

Dr. and Mrs. Karl T. Compton were our guests at the dinner meeting of April 23 held at the Milwaukee Athletic Club. Dr. Compton told of current activities at the Institute. Ninety Alumni and ladies attended. — A. PRESTON HEINTZ'38, Acting Secretary, Route 2, Box 85, Waukesha, Wis.

### *M.I.T. Club of New York*

On May 5 the New York Club held its annual election of officers. Professor Erwin H. Schell'12 was our speaker from Cambridge, and some 200 Alumni turned up. Sam Reynolds'22 was elected president, and Judd Paine was added to our list of vice-presidents. Lou Bruneau'38 was elected club treasurer in place of Joe Littlefield'17, who retired. Bill Keplinger'24 announced the plans for our annual spring golf outing, which will be held at the Knollwood Country Club on June 18 in White Plains, N.Y.

The Club sponsored a luncheon of sports writers, crew coaches, and club representatives at the New York Athletic Club on Monday, May 24. Ike Geiger and Jim McMillin, the crew coach, were present, along with Sam Reynolds and Bill Latham '26 and your humble Secretary. These luncheons are contributing substantially toward better publicity and more interest in rowing.

We hope to have a club directory out soon and also a subsequent news edition for M.I.T. men around New York. — WILLIAM W. QUARLES'24, Secretary, 330 West 42d Street, New York 18, N.Y.

### *Niagara Falls M.I.T. Club*

Ernst A. Hauser, Associate Professor of Chemical Engineering and one of the world's foremost colloid chemists, was the guest speaker at a dinner dance held at the Red Coach Inn in Niagara Falls on May 7. This, the first of what the local Alumni hope will prove an annual spring affair, was highly successful. Professor and Mrs. Hauser made the trip by car, and in the afternoon your Secretary and his wife attempted to show them what honeymoon couples come to Niagara Falls to see. Professor Hauser's after-dinner talk on "Colloids in Everyone's Daily Life," given in his inimitably humorous vein and nontechnically, to the satisfaction of the ladies, was introduced by Bill Hope'36, President, and illustrated by actual experiments. The excellent orchestra gave everyone a particularly pleasant evening.

The following Alumni were present, for the most part accompanied by their wives: Arnold Arch'40, Lawrence F. Cavendish, Jr., '38, Edward Depoyan'30, N. Bruce Duffett'40, Edward C. Forbes'41, Marion B.

Geiger'28, Bill Hope, Jr., '36, Anton W. Hosig'23, Edward D. Kane'47, Robert B. MacMullin'19, Arnold W. Martin'44, Robert A. Montgomery'19, Harry S. Myers'44, Alfred G. Nadelman (summer, 1940), Albert M. Patterson'33, Albert A. Sargent, Jr., '39, Caleb S. Taft'44, Harold L. Townsend'23, Lester M. White'12. — ARNOLD ARCH'40, Secretary, 910 Vanderbilt Avenue, Niagara Falls, N.Y.

### *M.I.T. Club of Philadelphia*

Atomic energy was the theme of our last meeting on May 18. The "fissioner" was William Stark Newell, who had approval of his views from none other than Albert Einstein who, by the way, supplied one of the two excellent films which were shown. The first depicted the tremendous force of an atomic explosion, suggesting destruction of the Earth if the use of atom bombs were ever permitted on a large scale. The second was the familiar but still spectacular film covering the Bikini experiments; in this we got a brief view of our own Dr. Compton. As a member of the President's Evaluation Committee, Mr. Newell was right on the scene during the experiment on that far-away atoll; he was accordingly well qualified to comment on the method of making the tests, on the effects of the tests, and on the significance of the results.

We had a total attendance of 78 persons, including seven guests and the following members: Claude A. Anderson'05, Herbert W. Anderson'15, Frederick P. Baggerman '37, Lawrence H. Bailey'15, Walter J. Beadle'17, Dudley E. Bell'17, William H. Brockett'35, David P. Burleson'38, O. Donn Burton'18, A. C. Carlton'17, Charles A. Cary'12, R. E. Cernea'25, Frank S. Chaplin '32, Francis J. Chesterman'05, J. Ernest D. Clarkson'21, Wiley F. Corl, Jr.'39, Henry F. Daley'15, Henry S. Dimmick'22, John L. Dodson'31, Carlos P. Echeverria'12, Robert C. Eddy'38, Edmund Engle'47, Victor S. Ezykowski'44, S. Newton Feldman'44, John . Ferencsik'47, Charles J. Fisher'46, Robert G. Fisher'44, Garland Fulton'17, Patrick D. Goggin'43, Joseph Greenblatt'22, A. Franklin Hahn, Jr., '45, Daniel C. Hall'19, Stanley D. Hartshorn'23, Edward J. Healy '23, Lewis W. Hull'38, Burkhardt A. Kleinhof'er'39, Harry A. Kuljian'19, Harry C. Lees '33, Carl A. Lindgren, Jr., '18, George T. Logan'29, John G. Lord'39, Harold C. Mabbott'12, William H. MacCallum'24, Samuel K. McCauley'41, Harold F. Marshall'19, Harry B. McCurdy'45, James McGowan, Jr., '08, Martin T. Meyer'32, Jack L. Mohr'47, William H. Peirce'46, Pao-Chi Pien'48, René A. Pouchain'17, Oden B. Pyle, Jr., '16, Robert E. Ritterhoff'46, Edward W. Smith, Jr.'42, Robert C. Smith'38, Charles W. Stose'22, James S. Thornton'41, Lawrence S. Vadner'22, William J. Walsh'06, Cyrus H. Warshaw'47, Franklin E. Washburn'26, Aaron E. Wasserman'47, Robert W. Weeks '13, Charles B. Weiler'25, Edward A. Weissbach'16, Proctor Wetherill'34, Edmund A. Whiting'15, Charles B. Wooster '29, Robert K. Wright'13.

Through the efforts of William H. Peirce, many of us are looking forward to a day of fishing off Ocean City on June 5. We expect a large group, and this may very well

be the informal medium so many of our members seem to desire. — SAMUEL K. MCCAULEY'41, Secretary, 288 Copley Road, Upper Darby, Pa. WILEY F. CORL, JR., '39, Assistant Secretary, Box 532, Bryn Mawr, Pa.

### *M.I.T. Club of Western Pennsylvania*

On May 18 at the University Club in Pittsburgh, the Club held its annual meeting and, in accordance with the constitution and by-laws, its election of officers, as the close of formal activity for the fiscal year. Forty-one members and two guests began assembling about 6:30 P.M., as usual, for half an hour of sociability prior to the usual excellent buffet supper.

President R. G. Lafean'19 opened the business session by calling upon the officers and committee heads for reports. The Secretary, W. J. Bates'35, mentioned the fact that for the first time in two years everyone present had been provided with a card, to be placed in his breast pocket, indicating his name, class, and company affiliation. The use of these cards will be continued at other meetings. The Treasurer, E. M. Barnes'23, made a report on the condition of the treasury, pointing out that during the fiscal year it had sustained several heavy expenditures including the cost of the directory.

C. M. Boardman'25 reported that during the year the two Honorary Secretaries had interviewed 36 prospective applicants for entrance in September, 1948. Twelve of these applicants had applied for a regional freshman scholarship. On April 26, the scholarship committee met to interview these 12 applicants and award the regional scholarship, consisting of a full scholarship for his freshman year, to Charles M. Lock-erby, a February graduate of Schenley High School.

R. D. Hoak'28, chairman of the nominating committee, announced the following slate for the fiscal year of 1948-1949: for president, William J. Bates'35; for board of directors (to serve for three years), Harold L. Lang'09, Irving K. Peck'21, and George C. Morrisette'35. The Secretary was instructed to cast a unanimous ballot in favor of the slate proposed by the nominating committee. Retiring members of the board of directors are R. E. Zimmerman'11, H. H. Hall'14, and J. L. Thistle'32.

George M. Hoffman'28, entertainment chairman, introduced the guest of the evening, Professor E. H. Schell'12, who is in charge of Course XV. Professor Schell gave a splendid talk on what he termed "Gulf Stream Trends in Industrial Life." He vividly portrayed many conditions which have been taking place in recent years and focused the attention of the group on various aspects which should be recognized and for which provision should be made in current and future thinking. Retiring President R. G. Lafean'19 was given a round of applause for the outstanding job he has done over the past two years. His unceasing efforts will greatly help the new administration in carrying on the high level of activity. Formal meetings will be resumed in the early fall.

Those present on May 18 were as follows:

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H. L. Lang'09, I. W. Wilson'11, R. E. Zimmerman'11, H. H. Hall'14, C. T. Blackmore'15, H. L. Bone'17, R. G. Lafean'19, E. A. Soars'21, E. M. Barnes'23, E. L. Chappell'24, F. L. Gemmer'24, C. P. Sullivan'24, C. M. Boardman'25, R. N. Palmer'25, J. P. Larkin'26, C. T. Barker'27, W. H. Reed'27, D. S. Fraser'28, R. D. Hoak'28, G. M. Hoffman'28, H. M. Baker'30, B. M. Hutchins'32, H. L. Johnson'32, A. H. Orr, Jr.'32, Henry Rockwood'32, W. C. Allen'33, I. E. Madsen'33, C. H. Mohr'33, A. K. Redcay'34, W. J. Bates'35, G. C. Morrisette'35, P. R. Toolin'39, C. D. Robson'41, T. T. Crowley'42, C. D. Magdick'42, G. N. Ziegler'44, D. W. Hoffman'47, M. W. Saxman'47, A. A. Winslow'47, W. C. King'48. — WILLIAM J. BATES'35, Secretary, 141 Woodhaven Drive, Pittsburgh 16, Pa.

### M.I.T. Club of Rochester

Thirty-two couples pronounced the Club's spring dance on March 20 "a wonderful party!" A buffet dinner of lobster thermidor in the informal coziness of the Chatterbox Club started the evening at high pitch. Dancing followed in the lounge, with the swing and sway of recorded music vying with the hum of conversation over a scene of continuous gaiety. All too soon, arrival of the witching hour broke up the good time but left the firm conviction that this should be an annual party.

The following members and their guests were present: Collin H. Alexander'39, Oliver L. Angevine, Jr.'36, Albert E. Baker'43, Henry N. Bowes'44, Roger S. Brookman'35, Winton Brown'34, Alfred E. Castle'40, Henry R. Couch'20, C. King Crofton'22, Franklin H. Dewey'31, Arthur B. Fox'33, John S. Goldey'44, John Green'46, Alexander F. Hamilton'35, Donald B. Kimball'20, E. Philip Kron'34, Andrew Langdon'22, Emery M. Low'29, Leon L. McGrady'17, Kenneth J. Mackenzie'28, William O. O'Neill'43, David Richardson'37, Gregory Smith'30, Robert E. Smith'33, Paul W. Stevens'37, Edson B. Snow'36, Benjamin W. Steverman'31, George R. Struck'34, Robert H. Thompson'39, Dwight Vandevate'22, Donald B. Webster'16, Richard M. Wilson'30.

"Medical Aspects of Atomic Energy" were discussed by James H. Sterner of the Eastman Kodak Company at the meeting on the 26th of May. Dr. Sterner is director of Kodak's laboratory of industrial medicine and was medical director of the Clinton Engineering Works — Kodak's Manhattan Project unit at Oak Ridge.

Discussing the biological effects of atomic radiation, Dr. Sterner pointed out that ionization of the protein or other molecules in the cells is the principal effect and that it usually occurs as a result of the recoil of the atomic nuclei. A single hit may destroy only a nonessential enzyme, causing temporary damage, or it may destroy an essential protein molecule and so the entire cell. Early popular expectations that the new radioactive materials would revolutionize medicine have now given way to a realization that these materials provide only one method of treatment. Medicine has thus received another tool but is far short of

having a complete answer even in limited fields. Dr. Sterner discussed and illustrated the use of newer instruments for detecting and measuring radiation intensity in "hot" locations.

The following members were present: Collin H. Alexander'39, James S. Bruce'39, Alfred E. Castle'40, Kendall B. Castle, Jr.'24, Allen L. Cobb'26, Henry R. Couch'20, Harry E. Essley, Jr.'36, Arthur B. Fox'33, Alexander F. Hamilton'35, Frederick J. Kolb, Jr.'38, Gerould T. Lane'13, Harold H. Leary'23, Charles F. Payne'33, Ralph W. Peters'30, Earl E. Richardson'19, Harold L. Smith, Jr.'39, Douglas M. Stewart'33, George R. Struck'34, Henry H. Tozier'96, Robert G. Vyverberg'42, Stanley C. Wells'30, Clarence L. A. Wynd'27. — FREDERICK J. KOLB, Jr.'38, Secretary, Building 14, Kodak Park Works, Rochester 4, N.Y.

### Washington Society of the M.I.T.

If any Washington Alumni forget anything, from names to glasses, from now on, it's their own fault. A good memory is not always ours for the wishing, but a memory can be improved to an astonishing degree, claims Dr. Hugo Furst, memory expert and our guest for ladies' night on April 16. On that night, a large and colorful gathering at the Old New Orleans gasped and applauded memory feats presented by Dr. Furst and his pupils.

One pupil had memorized all the pages of *Life* and would tell us the contents of any page we could name. This feat had taken him about one hour for each hundred pages. Names and numbers were associated. The members chose 20 nouns corresponding to each of the numbers between 1 and 20 while a memory student listened. The nouns, ranging from jonquil to volcano, were written on a blackboard not in view of the student. As soon as the list was complete, the pupil identified either the word with its number, or vice versa — accurately. Still more complicated feats were done in cards involving the memorizing of the deck. Six cards were removed from a deck; the remaining cards were then called out one by one to a memory-trained girl. At the end of the list she announced the identity of the six cards which had not been called. It was spectacular.

After bewildering us with a few more puzzling demonstrations, Dr. Furst explained the basis of his system. He associates numbers with consonants, e.g., 1 is T; 2 is N; 3, M; 4, R; and so on. Thus 24 would be NR. But here the consonants are made into a familiar word, each pupil making his own words — NR might be NeRo. The *Life* memorizer had seen Bob Hope floating through the air on page 24. So he composed a thought — a picture — associating NeRo and Bob Hope which was enough to prompt his memory when we asked what was on page 24. Similarly, page 91, BaT, showed wrist watches. The student conceived a ridiculous, but memorable, picture of BaTing wrist watches around which enabled him to state correctly what was on page 91.

More demonstrations of memory followed, then hypnosis! Six or eight subjects

volunteered to be hypnotized, and Dr. Furst sat them in front of the crowd and tried to induce sleep. Seldom does any group pay such strict attention as we did for the next 10 minutes while two subjects among the candidates actually did give the appearance of being hypnotized. It was an eerie experience for the audience. Dr. Furst described how memory training and hypnosis are allied in that both require intense mental concentration. Since the speaker operates a chain of memory classes in several cities, he referred to his 10-weeks course generously, mentioning memory for names and faces, numbers, associations and other specific subjects in addition to the basic system.

Both the Alumni and their ladies sat on the edges of their chairs and didn't miss a trick the whole evening. — JOHN A. PLUGGE '29, Secretary, 35 Oxford Street, Chevy Chase, Md. ALBERT F. BIRD'30, Review Secretary, 5070 Temple Hills Road, South East, Washington 20, D.C.

## CLASS NOTES

1886

The Secretary and Mrs. Chase drove to Virginia in April and on the way called on E. L. Pierce'86 in Princeton, N.J., spending a pleasant half-hour with him in his delightful home on Hibben Road. We found him looking well and going strong. We recalled early days at the Institute on Boylston Street and talked over some of the Class, very few of whom we had seen since they left and scattered to the four winds. We compared notes as to grandchildren and what we find to do in these our later years. He had had cataracts removed from both eyes but can see reasonably well. We were both sorry the call was so brief, but it was good to have seen him.

On the way home an attempt was made to see Horace Coffin in Philadelphia. A telephone call was put through from Bel Air, Md., where we spent the night, but rain developed during the night and driving was so bad the following day that we gave Philadelphia the go-by and went on to Newark for the night. The next noon found us at Yonkers, where the Secretary called on Doolittle for nearly an hour but couldn't accept his invitation to lunch as we were planning to get back to Island Creek before dark. Doolittle has a lovely home with a good-sized garden, where he was working when I telephoned to see whether he were available. He reported his recent golden wedding anniversary but said Mrs. Doolittle had been quite ill and is still confined to the house, although feeling much better. They had made the dining room into a downstairs bedroom and had divided the large reception room by setting up the dining table in one part. He apologized for the appearance of things, but it seemed to the Secretary to be a most comfortable and homelike arrangement. Mrs. Doolittle did not appear.

Leaving Yonkers via the Merritt Parkway, we stopped at Wallingford, Conn., and tried to find Batcheller. It was not strange that we failed, for after I reached home and

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looked up his letter, I found that it was headed "Wallingford, Vermont," quite some distance away! We got home shortly after eight o'clock, by daylight-saving time; as Virginia uses standard time, our program was an hour short all the way back. — ARTHUR TAFT CHASE, Secretary, Island Creek, Mass.

## 1890

Certainly '90 is not vegetating! The Secretary had a letter from Spaulding Bartlett asking whether water running out of a wash basin swirls clockwise south of the equator, instead of counterclockwise as it does here; another classmate called up to inquire whether Mendel's law of heredity still pertains, or whether the offspring of a mixed marriage may be depended upon to be no darker than the darker parent. Now comes notice that Frank White has received an outstanding award; and the bulletin of the Friends of the Library, M.I.T., publishes Willis Whitney's stimulating "thoughts about books."

The following dispatch from Atlantic City is from the Boston Herald of May 1: "Dr. Franklin W. White, Boston, was presented with the 1948 Julius Freidenwald Medal at the 49th annual meeting of the American Gastroenterological Association at the Hotel Claridge tonight. Presentation of the award, highest honor that can be paid a member of the society, was made at the annual dinner before some 250 members by Dr. John G. Mateer, of Detroit, society treasurer." Our congratulations to Frank on holding his position at the top of his profession.

Whitney's summary has an introduction in which he foresees "new, worth-while books increasing exponentially with time," and states that his "old-age idea is to try promoting the sense of appreciation of the creation . . . by using the possibilities of books." He thinks, "in literature, more attention has been given the 'Who' question; far too little to the 'Works As Is,'" and believes "we are headed towards a future, peaceful world." During "Youth," he read Alice in Wonderland, Jules Verne, Mark Twain, Isak Walton; then Herodotus, Plato, Aristotle, and Thucydides had interested him, but especially Alexander Pope's "Essay on Man," Pope seeming more progressive. "Darwin," he says, "greatly helped my readings because I visualized his ideas as extending into our future developments." Under the caption "Manhood," he mentions several books he read pertaining to the brain, biographies of famous physicians, and so forth, which suggest how he may have come to do his famous work on the production of artificial fevers. Under the heading "Old Age," he says, "I have enjoyed that introspective period which those who die early seldom experience. Leisurely reading such books as those of Wells, the Huxleys, Haldane, Russell, Bergson, Dewey, and so on, I realized that there was no end to philosophy and there will be no end to good investigation of nature."

Bartlett reports that he went to Texas last spring and enjoyed it very much. The Secretary and Mrs. Packard did likewise and continued on to California. They found southern California overcrowded, dry, and

dusty. Los Angeles claims to be growing at the rate of 200,000 a year. We prefer either San Diego or San Francisco.

The address of Ernest C. Conger is changed to Rancho Hacienda del Rio, Olive, Calif. — GEORGE A. PACKARD, Secretary, 53 State Street, Boston 9, Mass. HARRY M. GOODWIN, Assistant Secretary, Room 3-233, M.I.T., Cambridge 39, Mass.

## 1891

Our 57-year class dinner was held at The Country Club in Brookline, Mass., on Friday, April 30. Fifteen accepted and 15 came — no casualties. The following attended: Brown, Bunker, Clark, Cole, Damon, Dana, Douglass, Fiske, Hatch, Holmes, Howard, Tappan, Warren, Wilder, and Young. Neither of our honored and invited guests was able to attend. Harry Clifford '86 has been seriously ill, as result of an accident. Horace Ford expected to be with us, but at the last minute a cold prevented him from coming. We hope they will both be able to come to our next dinner. Joe Warren came down from Maine and Francis Holmes from Plymouth. There were very few absentees other than those who were ill or lived too far away. About 40 names are left on our "active" list, of those who are interested in class affairs, and about that many cards and letters were received in reply to the dinner announcements.

Most of us met at the Algonquin Club at 3:30, with plenty of cars to take us to The Country Club. There we gathered around a table in the taproom for the usual refreshments, as it was too cool to sit outside. A very satisfactory dinner in a private room upstairs was followed by our business meeting. We first elected Harry Young as president to succeed Harry Bradlee, who passed on last year, after serving us in that office for 27 years. Harry Young had served as president for a few years back in the dark ages and has been our general chairman for the last two five-year reunions, so was the logical choice for president, which is now a life job. Charlie Locke '96 sent us a suggested constitution, which we turned down on the theory that we had always gotten along nicely without any (if there ever was one, it has disappeared). Harry Young told us about the Alumni Fund and gave us some figures for our Class and as a whole. He is class agent and has done a fine job, as we stand well both in amount and number subscribing. The report of the Secretary was next on the list. He reported the present bank balance as one dollar and 50 cents, depletion being largely due to expenses incurred at our 55th. By reason of the generous response to our request for funds, we now have enough to take care of our needs at least until our 60th (only three years away).

Our membership list has been reduced to approximately 80 with known addresses, of whom about one-half take no interest in class affairs, although a few of them make subscriptions to the Alumni Fund. Only about 20 of these may be considered as available for class dinners. Since our last address book was printed in the spring of 1946 (or about two years ago), 14 of our members have passed on, half of whom had been on our active list.

Frank Howard gave us a very interesting talk on his "flying" trip to Europe last fall. It was a small private party with proper credentials, and their chief purpose was to find out what was being done in reconstructing cities such as Prague and Warsaw which had been largely destroyed. He told us about the plans for building new towns or cities near London to relieve congestion to some extent. Apparently, not much has been done as yet on reconstruction, and it will take years to make any great headway in rebuilding Europe.

In reply to our dinner notice, we received about 20 notes or letters from those who could not attend, and the following extracts may be of interest. George Atkinson, Summit, N.J.: "I have recently lost my wife after 55½ years of happy memory so am keeping quiet trying to adjust myself. Please give my best regards to all my friends."

Ambrose Walker, Winter Park, Fla.: "I am so sorry not to be with you for the reunion, but we do not leave Florida until sometime in May. Having considerable bronchial trouble, I cannot venture north until that time. I hope the celebration will be a very great success. Please give my best to the Class of '91 and express my great regret. I saw Steve Bowen shortly before he died; his death was rather tragic, and I know that it was for the best. His daughter and her husband came here, and both are very charming."

Walter Hopton, Syracuse, N.Y.: "Greetings to my classmates. I am sorry I cannot be with you but hope I shall live long enough to attend the 60th reunion." — Secretary to J. H. Birks, Montreal: "For your information, I would advise you that Mr. Birks is in delicate health and has been confined to the house for some weeks."

William Fautoute Keene, Great Neck, N.Y.: "It is a long time since I have set foot in Rhode Island or Massachusetts. I am pretty well but don't like to stray away from my comfortable apartment, although this town is changing since the United Nations moved in and is not so attractive as it used to be. In the picture of the 55th, I see Harry Young is as good-looking an old man as he was a young man in '91. I began in Providence in 1892 but left Rhode Island in 1912. Give my kind remembrances to the boys."

Alex W. Moseley, Evanston, Ill.: "I saw Ricker yesterday. He's pretty much confined to his bed at a house for older people in a very pleasant part of Evanston, near his son. Ricker has very small expectation of getting about from now on. Give my very best wishes to all." — Edward Earl, Leominster, Mass.: "I had been looking forward to meeting you all again and seeing Howard's pictures and hearing his account of his trip, but my sister-in-law is to be buried here soon, and my wife goes to the hospital for x-rays, about which I am somewhat concerned. I am still plugging away on the old lines so as not to 'rust out' and feel much better when busy. I hope I shall be able to attend the next gathering of the clan."

Albert R. Pierce, New Bedford, Mass.: "I have to watch myself these days and do not venture far from my home town. A daily game of pool at the local club, which

is a short walk from my house, is my limit." —Bert Kimball, Redondo Beach, Calif.: "Concerning the coming meeting of '91, I am sorry enough I cannot be one of those present. It would be a pleasure to meet those of my Class again. The Class of '91 has a fine record, and all will agree that no finer body of men ever assembled at the old Rogers Building on Boylston Street in the fall of 1887—sixty-one years ago!

Charlie Garrison, Santa Barbara, Calif.: "I have had a serious accident with my car. On our return from a visit to a hospital, we entered the highway just in time to be struck by a passing car. Both cars were practically demolished. My companion had a cracked rib, and I was badly bruised and shaken up. Give my regards to all the boys; I wish them a fine reunion and that I might be present."

C. H. Hanington, Denver, Colo.: "I mailed my regrets for the annual dinner some days ago and am indeed sorry I live so far off and cannot say yes. I am still on the job here at the museum and recently went into the hills with the boys in search of crossbills. How many of you even know what a crossbill is? These spring days are very tempting for outdoor work, but I find as old age creeps over me that raking leaves, spading, trimming bushes, and such work, are very much harder than they were even a few years ago. Please give my very best wishes to all."

Arthur W. Pierce, Pittsfield, Mass.: "Sorry I can't be with you for the class dinner. My wife broke her hip last November, and although she is at home, after three months' hospitalization, with the fracture completely healed, she lacks confidence and will not move without a great deal of help and some compulsion. So I cannot leave her for any length of time. I got a new wheel seven months ago and have pushed it 1,082 miles since then. I have ridden it every day but 20 of that time. So far, I have found only one hill in the city which I could not ride on low gear. That one has a pitch of more than 30 degrees, and I hope to conquer it yet. I did not get time for much ice skating, but had two short sessions on a rink near the hospital." —George Spooner, Maplewood, N.J.: "I am sorry that I shall be unable to attend the class dinner, but distance and consequent expense prohibit it. I am in pretty good condition and am keeping in touch with my local friends. I hope to take a vacation in Maine this summer as I used to."

William Lawrence, Intervale, N.H.: "Gertrude and I, with bags and baggage, came up here a few days ago, where we have a very comfortable but unpretentious place, to spend the summer. We have a little garden where I can potter around, keep out of doors and find as much exercise as I want to take. The little house is heated with oil so we can be very cozy and happy even when we get snowed in, as we very occasionally do at this time of year. The top of Mount Washington is visible from our living-room window and just now looks like a big white sugarplum. We usually remain here well into the autumn and enjoy the gorgeous coloring of the foliage. The only trouble is that the autumns come around altogether too often. I do not like to see

the time go so rapidly. Considering everything, however, we have managed to keep some degree of health and are very thankful that we can enjoy so much. I send regards and best wishes to you all."

Carleton Read writes from Worcester that he (personally) painted his house last summer and sends a photograph to prove it! He says, "I guess I will not try to make it this time, but perhaps will next time. I am not doing anything special this summer but painted the house last summer. The family are all going strong. The children have planned a round-up of the clan for the first of June. We expect to have all the children come home, including the grands and the two great-grands. Remember me to all the fellows." —Arthur N. Mansfield, Reading, Mass., writes as follows: "I am sorry but I shall be unable to attend the class dinner. About the first of March, I developed a heart upset, and as a result the doctor has put a very strong rein on my activities. I do not consider this as serious, but a definite warning to slow down; which I have done. I had anticipated much fun with flower gardens, and so forth this spring, but alas, no! With kindest greetings to all. . . ."

Robert Ball, Cambridge, England: "When I opened today your kind letter of 'class notes,' it was not without apprehension that it would convey another reminder of the diminishing numbers of our classmates. This time it was Steve Bowen. I had known he was not in good health but, nonetheless, was shocked at the news. We were thrown much together during our days at Tech. We both took the same course, and the alphabet did the rest to cement our friendship. On one of his trips to Europe when he was accompanied by Atty Loring '90, who also has passed on, I had the pleasure of a visit from him, and of showing them both something of this ancient university (I use the adjective advisedly, for in June one of the colleges is celebrating the 600th anniversary of its foundation, 1348). I knew Steve was interested in the manufacture of fabrics. We are all over here becoming wise in this respect because of the rationing of apparel. Mrs. Roosevelt, whose gracious words at the end of her much-prized visit were very consoling, concluded with her opinion that we were looking tired! I hope that she did not notice patching and turning in our tailoring! Economists tell us that we have too much money chasing too few goods. I have not noticed the first part of this statement to be very apparent but the latter certainly is. All values seem to have gone haywire, and one never knows what, with restriction, purchase tax, and shortage, any particular article will cost. Only one thing is certain: if there is any move in the price, it will be up and not down."

"In this quiet little town, to which a critical visitor referred as a 'backwater' (and was met by the retort that the big fish are found in the backwater), things go on much the same from term to term. Every department is crowded with students, and the buildings necessary for extending laboratories, and other requirements cannot be started until what are regarded as more essential uses for building materials are

satisfied. There are some curious preferences, as you may imagine. I hope you and yours are flourishing. It is nice to hear from you, and your letter arrived just as you were preparing for your dinner. It made my mouth water to think of you all assembled, not on gastronomic grounds, but for old friendship's sake. I shall raise my glass this evening to you all." —HENRY A. FISKE, Secretary, Grinnell Company, Inc., 260 West Exchange Street, Providence, R.I.

## 1892

On another page of this issue of The Review is an account of the career of our classmate, W. Spencer Hutchinson, who died at his home, 45 Old Morton Street, Dorchester, on May 25 after a long illness.

Entering Technology after graduation from the Dorchester high school, he qualified for the S.B. degree in Mining Engineering and Metallurgy with us in 1892. Throughout his undergraduate career, and ever since, he took an active interest in class affairs. He was with us on our 45th reunion at Billy Kales' place in Dennis Port and again at the various meetings on the occasion of our 50th anniversary in 1942. On account of poor health, he was unable to join us last year on our 55th. In the year after graduation, he was employed as assistant to Dr. Harry Tyler, the Secretary of the Institute; and in the following year, as curator of the Technology exhibit at the World's Fair in Chicago. In 1894, he went to California for employment in the Utica Mines (gold) as an underground miner and in the next year was associated with our classmate, Fred Harvey, in mine surveying and assaying. He returned to Boston in 1896 and from then up to the time of his appointment as professor of mining at Technology in 1922, was engaged in professional work in his field.

At the time of our 50th reunion, he stated that he had visited professionally every state in the Union with the exception of Alabama. In World War I, he was called on for foreign travel. In 1916, he sailed to Fiji, New Zealand, Australia, and New Caledonia, returning in June, 1917. In February, 1918, he sailed from New York for Panama, Ecuador, and Peru with a dozen other passengers, as most sailings were canceled on account of the sinking of the U.S.S. *Carolina* by a U-boat shortly before. Having arrived at Colon, he crossed the isthmus by rail, the canal being blocked by a slide. He returned to Boston in time for the celebration of the Armistice. Later, he made three additional trips to Peru, one to Chile, and one to South Africa, Southern Rhodesia, and Transvaal.

Five years after his appointment as professor of mining, he was put in charge of the department where he served until his retirement as professor emeritus in 1930. After his retirement, he again set up an office in Boston, practicing as an industrial minerals specialist for a number of years. His outstanding attainments in his professional field are set forth in the pages of the *Institute Gazette*. He was married in 1898 to Elizabeth E. Baker, who died in 1944. Four children survive: Mrs. E. D. Ryer, Mrs. Jervis J. Babb, William Spencer



Hutchinson, Jr., Mrs. Bernard J. Corrow, and a number of grandchildren.

Besides taking pride in his outstanding attainments in his professional field, his classmates will long remember Hutchinson as a genial companion who always took a lively and friendly interest in all our affairs. — CHARLES E. FULLER, Secretary, Box 144, Wellesley 81, Mass.

### 1894

In the June issue, the Secretary used up so much space in describing his travels across the country that he did not get in a part of a letter from Abbot, as he intended. However, it is quite as interesting reading today as it would have been a month ago and well worth reporting as it comes from '94's most outstanding scientist, a world authority in his branch of science. Abbot wrote: "Until stopped by snow, I played 18 holes of golf every Saturday morning. I deposited with our treasurer in January a prediction of 55 dates for minima of temperature in Washington in 1948. The sealed packet is to be opened on January 20, 1949, and the director of the Astrophysical Laboratory to compute how much cooler these dates average than the warmer dates between the pairs. I predict seven degrees F. I made three trips to California in 1947. The first, in May, was executed in 10 days to look over our apparatus on Mount Wilson. Then, in August and September, Aldrich and I did two pieces of work there, one to check the Smithsonian radiation scale. It checked to better than one in 1,000. The other work was to measure distribution of heat in spectra of stars. We observed eight stars with fair results. Between October 28 and November 8, I traveled 6,000 miles by train, 800 miles by motor, and 20 miles on a rocky trail in a 1924 Dodge truck, and climbed partly on hands and knees, a mountain 8,000 feet high. We hope it will be a good site for a solar radiation observatory." The above would seem to indicate that for a man past 75, Abbot is going strong. Probably most of us couldn't take it and wouldn't have the courage to try.

Often classmates inquire for men who were prominent in undergraduate days. One such is Charles A. Meade, who for years has been a prominent and successful consulting engineer in New York City and lives in the classic shadow of Vassar at 108 College Avenue, Poughkeepsie. Some years ago, the Secretary invaded his office in the Grand Central Building and tried to pry him loose to attend our famous 50th, but there were adequate reasons why he could not join us at that time. We serve notice on him, and all others of the Class, that next year we shall have a 55th and, therefore, one more chance for the delinquencies of the past to be wiped out.

Walter V. Brown has reversed a very common type of migration having left Orlando, Fla. (at least temporarily), to live in the delightful little city of Belfast, Maine. His address there is The Battery. George N. Leiper has recently reported through the Alumni Fund, and his address is still Westleigh, Norwood Avenue, Chestnut Hill, Philadelphia 18, Pa. — This is one of the most charming parts of a charming city.

The Secretary was in Philadelphia in early June and wishes he could have seen George at that time. We well remember him from student days and as an attendant at our golden gathering at Swampscott.

Just as these notes were written, information has been received of the death of William H. Pratt on May 29, at the age of 75. From graduation until his retirement in 1940, Pratt was an electrical engineer of the General Electric Company at the big River Works in Lynn and was a pioneer in electrical measurements, the holder of many patents which were assigned to the company, and a brilliant engineer. He was the first New Englander to receive an award from the Engineering Society of New England and was a fellow of the American Institute of Electrical Engineers. During the war he was engaged on important research for the Radiation Laboratory at M.I.T. and with the Research Corporation in Cambridge. He is survived by his wife, a son, Kenneth H. (M.I.T. '21), and a daughter, Miss Helen Pratt, to whom our deep sympathy is extended.

It is hoped that in subsequent notes the Secretary may be able to present a fuller statement of the brilliant career of this highly regarded classmate. — SAMUEL C. PRESCOTT, Secretary, Room 3-233, M.I.T., Cambridge 39, Mass.

### 1896

Guy Morrill, who has for some years been living a more or less retired life at an R.F.D. address on Canandaigua Lake, has now moved into town, and his address is 48 Howell Street, Canandaigua, N.Y. Charlie Tucker telephoned the Secretary on May 13 as he was passing through Boston. He reported he got through the winter all right with his apple orchard in North Andover, and he was at the time on his way to Minneapolis to attend the national convention of the Sons of the American Revolution. J. R. Killian, Jr., '26, Vice-president of M.I.T., visited the Indiana Association of the M.I.T. on May 14 and brought back the good news that Lloyd Wayne attended that meeting, which was excellent evidence that he had made good recovery from his recent hospitalization. He had noticeably lost weight, however, which probably was in accordance with the doctor's orders.

Billy Anderson wrote from Cincinnati on May 10 that he was home from the hospital after his recent operation, which was very successful, so that he was looking forward to the fulfillment of his doctor's prediction that in due time he would be feeling better than he had for some years. He was scheduled to depart from Cincinnati for his summer home in Maine about June 10.

Rear Admiral Bakenhus was in Boston from May 26 to May 28 as vice-president of the American Shore and Beach Preservation Association, attending a convention at the Copley Plaza.

In previous notes the sad situation of the widow of our classmate Armin Lindenlaub has been set forth. The Secretary sent a food parcel and received a reply dated April 17, the reading of which almost brings tears to the eyes. Mrs. Lindenlaub wrote "Yesterday I received your kind food package,

which my daughter Isle called for at the post office. It arrived in perfect condition without any damage. You can hardly imagine our great joy as we unpacked the many good things, which are rare delicacies for us. I thank you from the bottom of my heart for your kindness and readiness to help." If any classmate feels the urge to relieve to some extent the needs of the Lindenlaub family, it should be noted that packages up to 20 pounds in weight can be sent by parcel post and will be delivered, but CARE packages cannot be delivered in the Russian zone, where the Lindenlaubs are located. The address is Mrs. Hedwig Lindenlaub, Friedrichplatz 3, (10b) Chemnitz (Bundesland Sachsen), Russian Zone, Germany. The items which Mrs. Lindenlaub has mentioned as being practically unobtainable include butter, fats, bacon, sugar, milk (powdered), meat, eggs (dissicated), chocolate, and so forth.

Jim Melliush has written that he is still somewhat weak but is back on the job again in Albany. He sent on the issue of *This Week*, included in the *New York Herald Tribune* of Sunday, April 18. This contained an article by David O. Woodbury '21 entitled "Just Ask Porter." It told the story of our classmate Russell W. Porter and his work on the huge new 200-inch Palomar telescope. Porter was designated as the artist, architect, and idea man extraordinary of Palomar during the 20 years since he first reported to George E. Hale '90 at Palomar. According to Woodbury, the successful design, construction, and erection of this giant telescope is due to the genius of Porter. Apparently he is still going strong at his age of 75 years, and for generations to come the Palomar telescope will remain a monument to his skill and devotion.

An air-mail letter from Reg Norris dated May 12 contained the good news that they were cheered no end by the arrival of three food parcels sent by classmates in Norris' fraternity, but the best news of all was that the necessary affidavit for Mrs. Norris had been provided by a Russian friend of hers in the United States, so that their hopes were that before the year was ended the family would all be back in the good old United States.

Henry Waterman wrote on May 12 that he was returning home to Yarmouth North after seven strenuous weeks in the legislature at Halifax, which were rather confining but resulted in much good legislation and careful appropriation. He was planning to stay at home for a few days to get the house and grounds in order for the summer and then make a short trip of 140 miles to his farm at Pleasant River in the west central part of the province. He is very expectant of getting many a bite — some trout and many black flies, but all good. He adds that is why they use pepper.

The death of Harry H. Smith occurred in Hartford, Conn., on May 24. He was with us as a special student in Architecture during our sophomore year, and all his life he had been a practicing architect in Hartford, not participating in class affairs. — CHARLES E. LOCKE, Secretary, Room 8-109, M.I.T., Cambridge 39, Mass. JOHN A. ROCKWELL, Assistant Secretary, 24 Garden Street, Cambridge 38, Mass.

*An unusually fine professional recording of M.I.T. songs is now available at \$2.00 a record, including postage charges within the U.S. — Mail request and check to the "Alumni Association of the M.I.T."*

## 1897

Once again has the Class lost one of its members who was at the reunion at Oster-ville in 1947. Edward A. Sumner, II, X, died in New York City on May 2. Ted was born in Jackson, Mich., and was graduated from the Detroit University School in 1904. After completing his course at the Institute, he began his career as a foundry moulder and was later an engineer for the Compagnie Nationale des Radiateurs in Jura, France. In 1900, he became secretary of the manufacturing committee of the American Radiator Company in Chicago and a year later was named secretary of its operating committee in Detroit. He was manager of the Detroit plant of the company from 1907 to 1910 and was a member of the board from 1930 until his retirement in 1938. He was a retired captain in the United States Army and a Chevalier of the Legion of Honor. He was a former vice-president of the American Chamber of Commerce in France; first vice-president of the American Club of Paris and chairman of the American Library in Paris. He was senior warden of the American Protestant Cathedral of Holy Trinity in Paris from 1938 to 1947 and in 1929 represented American industry on the Economic Consultative Commission of the League of Nations. He leaves his wife, Ernestine Davenport Tappey Sumner. — JOHN A. COLLINS, JR., Secretary, 20 Quincy Street, Lawrence, Mass.

## 1898

The incredible is happening. A year ago we thought that if 50 classmates returned to M.I.T. for the 50th reunion, it would be something. As these notes are being written or the July issue of The Review, it is three weeks before the reunion. Already we have received, in reply to Lester's "Information Please" letter, checks and requests for reservations from 75 classmates, who will be accompanied by 55 others. Hail Lester, George, and the reunion committee! Hail, '98!

Nor is this all. Lester advises this week that, whereas three who originally sent in "coming" cards write that they cannot come, five others, hitherto unlisted, have written that they will come. Add to the names already listed: Burton A. Adams, David H. Blossom, Chester F. Drake, Robert S. de Golyer, and Albert W. Tucker, making a possible total of 100 classmates! You that attend the 50th reunion will know more about it than these preunion bits of news; and you who cannot attend will get the full story in due course. These notes are a sort of space-time, Einstein-relativity proposition. They are, as above stated, written three weeks before the event. You will read them three-weeks after the event. Those who attend the reunion will be able to compare what is indicated with what really occurs.

Response to the Class Agent letter has also been prompt and generous. Although the letter was mailed only two weeks ago, the figure for the 50-year gift is already more than \$21,000 and perhaps more than \$25,000. It is impossible to state the sum contributed to date as an exact figure because some of the gifts are securities and

participation in wills, the value of which can only be estimated. Fine work, '98!

And now we will open the gates of the '98 class news reservoir, described in the May and June notes, and let a few trickles of news ripple down the spillway.

Dan Edgerly sends a clipping from the program of the spring meeting of the American Chemical Society in Chicago. On April 19, diplomas were awarded certifying 50 years of continuous membership in the American Chemical Society to Arthur A. Blanchard and to Lewis J. Seidensticker. Thanks, Dan; and congratulations to Arthur and to Seide! We will start alphabetically on the biographies with Donald Nelson Alexander, IV. After a few years in the practice of his profession, he turned to spiritual architecture, as shown by the following brief biographical statement.

Donald Nelson Alexander, whose residence is at 83 Ridgewood Terrace, Springfield, Mass., and office at 37 Chestnut Street, Springfield, retired in 1946. He has been an honorary canon of Christ Church Cathedral in that city from 1940 on. Born in Boston in 1875, the son of William Horatio Alexander and Mary Louise (Smith), he took his B.S. degree with us and his B.D. from the Episcopal Theological School of Cambridge in 1904. He was ordained deacon in June of that year and priest in May, 1905, by the Right Reverend William Lawrence. He served as minister of St. Stephen's Church in Fall River, Mass., from 1904-1906 and as assistant at Christ Church in Springfield from 1906-1915. After teaching for the year 1916-1917 in the Springfield technical high school, he became, in 1918, rector of St. John's Church in Worcester, where he remained until 1946. During that time he was deputy to the synod of the Province of New England in 1915, 1917, 1918, 1920, and 1923, secretary of the commission on church architecture of the Province of New England in 1921, member of the Board of Missions, from the diocese of western Massachusetts from 1923-1941, and dean of the Convocation of Worcester from 1941-1943. Many of us have had the pleasure of listening to and meeting the late Archbishop Lawrence, and we shall be glad to compare notes with our classmate.

You can't have all the biographies at once, as we don't want to run the reservoir dry. We shall therefore skip to a classmate at the other end of the alphabet, who has made his mark in the world of communications engineering, Karl William Waterson, VI. Mr. Waterson is a New Englander, born at Chelsea, Vt., on March 9, 1876, the son of Charles A. and Mary E. (Colby) Waterson. He attended the public schools of Lowell, Mass., and was graduated from the Lowell high school, and, in 1898, from Technology, with the degree of bachelor of science in Electrical Engineering. On June 13, 1898, he entered the service of the Bell System as assistant in central office engineering for the American Bell Telephone Company in Boston. Three years later, in September, 1901, he was placed in charge of central office engineering and, in January of 1905, of traffic engineering. A year later, he was put in charge of both central office and traffic engineering work and in January,

1907, was made assistant chief engineer. In that year, the Bell System headquarters were transferred to New York. In 1909, the engineering work of the American Telephone and Telegraph Company was divided between plant and traffic, and Mr. Waterson was placed in charge of traffic work, with the title of engineer of traffic. In July, 1919, he was made executive officer of the department of development and research and six months later was appointed as assistant chief engineer of the department of operation and engineering. In 1927, he was named assistant vice-president in charge of plant operation, traffic, and general operating results in that department. On May 19, 1937, he became vice-president in charge of the personnel relations department. He is a director of the Bell Telephone Laboratories and a member of the long lines board.

Mr. Waterson is a member of the Technology Club of New York, of the Essex County Country Club, and the Short Hills Club in New Jersey; and the Barre and Montpelier country clubs in Vermont. He is a fellow of the American Institute of Electrical Engineers. He was married in 1928, to Anne Darling of Chelsea, Vt., and has a daughter, Anne Elizabeth, and a son, Karl W., Jr. His residence is at 56 Whit-trede Road, Summit, N.J. Karl, some day we should like an expansion of some of the sentences of this brief biographical sketch. You might tell us how it felt to be a top executive of the mighty American Telephone and Telegraph Company, with interesting reflections and episodes, of which there must be many to relate, concerning the various departments under your direction.

Now to whisk out west on our magic carpet and, by means of a selection from Al Davis' travelogue, cross with him and his wife the Panamint Mountains of California: "Soundly we sleep that night and arise full of anticipation, for this day is to take us over the Panamint Mountains and down into Death Valley, the most stunningly spectacular trip we know, and by far the finest way to enter the valley. First, we cross the Argus range, then down into the Panamint Valley. Here we halt for coffee and waffles at Agnes Reid's at Panamint Springs. We have a very interesting chat here with Ben W. Palmer, an old mining prospector, known as Hard Rock Palmer. He takes a shine to us and insists on presenting us with three fine mineral specimens—lead ore, copper ore, and silver ore—the latter being a very rich piece of pyrrhotite, claimed to assay \$10,000 to the ton.

"While in the Panamint Valley we visit Darwin Falls, a lovely little waterfall in a narrow rock canyon and a rarity in this parched land of saline desert, where water is highly valued. Now we ascend the Panamint, to Towne's Pass, and then wind out way down into Death Valley itself—wonderful, beautiful, and enormously impressive. We locate at Stove Pipe Wells and find time that afternoon for the trip back on the Panamint Range to Angerbury Point, at an elevation of 6,000 feet, where we overlook Death Valley from its western rim. It seems nearly a straight drop below us of more than a mile to the shimmering saline floor of the valley; beyond roll the mountain ranges, the Grapevine to the North,



then the Funeral east, the Black Mountains southerly—a wonderful panorama of canyons, gorges, and arid bottom land. Nearly opposite us, across the Valley, is a promontory known as 'Dante's View.' In earlier years we have twice stood there and looked down to Bad Water, the lowest spot in Death Valley, 280 feet below sea level and upon raising our eyes have looked across the valley, over the Panamints, and far beyond have seen Mount Whitney's glistening peak on the western horizon. Thus, in one moment, we have seen the highest point and the lowest in the United States." Thanks, again, Al, for the vivid and interesting description.

Did you hear the gates close? Well, they are shut tight now; and what's better, we have received news this month to compensate for the trickle let out. Paul Wesson has lived up to the promise made at the very pleasant luncheon visit last spring and has sent us a biographical sketch, which you will all be interested to read, when it is released. Thanks, Paul, many times. And, by the way, I can see many of you fellows in the throes of composition for the edification of your classmates. The United States mails are still running. Does that register? Thanks!—EDWARD S. CHAPIN, Secretary, 463 Commercial Street, Boston 13, Mass.

### 1899

The professional career of Raymond Bennett has a somewhat salty flavor. In 1900, after a job testing soils at the Wachusett Reservoir at Clinton, Mass., and later working as draftsman for the New Haven Railroad, Raymond joined his father in the water-front construction business at Portland, Maine, then known as the William F. Bennett and Son Company but later incorporated as the Bennett Contracting Corporation. The chief activities of this concern were wharf and bridge work, pile driving, and submarine pipe laying; Raymond's principal interest being the latter. During the last war, for example, Raymond laid two of these pipe lines using his controlled buoyancy method. The first of these pipe lines was constructed of eight-inch steel pipe and extended 3,000 feet from Peak Island to Cushing Island across Whitehead Passage at the entrance to Portland Harbor. The second line was of 12-inch wrought-iron pipe laid from Great Diamond Island to Mackworth Island, a distance of 7,100 feet and another length of 2,500 feet from Martin Point to Fal-mouth Neck. (*Engineering News Record*, December 2, 1944, pages 78-90) Since the first of these jobs was done during the winter of 1940-1941 and the second in the still more severe winter of 1942-1943, it seems fair to assume that Raymond has a rugged constitution. He is now retired and living at the Congress Square Hotel in Portland, Maine.

Henry C. Eaton, II, retired in 1943 and has since spent his winters in Peterborough, N.H., which is only some 20 miles east of Keene, N.H., on Route 101. In summer he lives on his farm at Temple, which is some 10 miles nearer Nashua. Henry spent two years following graduation with the Worthington Pump and Machinery Cor-

poration. For the next 20 years he was plant engineer for the Waltham Watch Company. From 1922 to 1924, he was plant engineer for the American Optical Company, and then spent somewhat more than a year as engineer for an oil refining company at Tampico, Mexico. But the heat of the tropics may have been too much to endure, for in 1926 Henry returned to New England to become mechanical engineer for the commission on administration and finance of the Commonwealth of Massachusetts. Twelve years later, Henry went into consulting work, but with the approach of the war in 1939, he became connected with Charles T. Main, Inc., in Boston, where he was engaged in war construction work in Massachusetts and Tennessee. Although retired, Henry spends some time in civic work when the farming season is over.

Edgar P. Trask, XIII, formerly of 21 West Street, New York City, is now located at 238 Delaware Street, Woodbury, N.J.

Stuart A. Courtis, VI, who holds a B.S. and an M.A. from Teachers College, Columbia University, and a Ph.D. from the University of Michigan, has spent his life in the educational field. In 1898, he was appointed a teacher in the Detroit Home and Day School and became head of the department of science and mathematics there in 1907. Seven years later, he was made director of educational research in the Detroit public schools. He remained in this position until 1920, when he became director of instruction, supervision, and research and dean of the Detroit Teachers College. In 1925, when he was appointed professor of education in the University of Michigan, he was retained by the Detroit public school system as educational consultant. He retired as professor emeritus in 1944 but retains an interest in education, religion, and in measurement of growth.

Stuart has been a prolific contributor to the literature in his particular field. On his retirement he was presented with a booklet summarizing more than 100 of his articles and books published between 1907 and 1944. Many friends and students in the Detroit public schools and at the University of Michigan and at Wayne University collaborated in writing these abstracts.—BURT R. RICKARDS, Secretary, 381 State Street, Albany, N.Y. ARTHUR H. BROWN, Assistant Secretary, 53 State Street, Boston 9, Mass.

### 1900

The following is from the pages of *Electrical Engineering*: "Newitt Jackson Neall (Associate, A.I.E.E., 1903, Member, 1908, Fellow, 1912) consulting engineer, Boston, Mass., died recently. Born on February 7, 1875, in Philadelphia, Pa., Mr. Neall was graduated from . . . Technology in 1900 with a bachelor of science degree after having previously attended a special student's course of the Pennsylvania Railroad Company, Altoona, Pa., from 1892 to 1896. Mr. Neall was associated with the Westinghouse Electric and Manufacturing Company (now the Westinghouse Electric Corporation), Pittsburgh, Pa., from 1900 to 1906. He was a special student on lighting protective apparatus development, de-

sign and application, for the first seven months and then served as an assistant in that department. In 1903 he was put in charge of the lightning arrester department and in 1905 named section engineer of the engineering department. In 1906 Mr. Neall left that organization to start a business as a consulting engineer in Boston, Mass. He became part of the partnership known as Thomas and Neall in 1907 and was engaged in similar work. The partnership was dissolved several years later, and Mr. Neall returned to his private consulting business, which he carried on until the time of his death."

Frew Lawley wrote a letter to the Secretary from Seattle last March. Unfortunately, through some error of the post office, it was not delivered in Florida as it should have been. Finally, after crossing the continent three times, it has been received. It reads as follows: "Late last fall someone approached me and said, 'Go west this winter.' Taking for granted he knew what he was talking about, I started with Mrs. Lawley for southern California. Good judgment, this time, proved lucky, as we escaped an old fashioned New England winter. We enjoyed the sunshine at the Casa de Manana in La Jolla, which is by far the finest spot on the southern coast. The town—situated as it is on the cliffs overlooking the Pacific with surf pounding against the rocks, fine bathing beaches, attractive stores, and modern wide streets—impresses one immensely as a delightful resort.

We then motored up to Santa Barbara, stopping en route for a few days in Los Angeles, which gave me an opportunity to call up our classmate, L. Webster Wickes, who was much pleased to hear from someone from the East and from our Class. I was unable to get in touch with Colonel Charles T. Leeds as he was out of town for the period I was to be there. I had the pleasure, however, of C. J. Bacon's calling on me at the Hotel Samarkand in Santa Barbara. He surely has not changed much in looks over the period of years. He is very active around his home, up on the hill, having retired. Working in the garden and building fieldstone terraces evidently keeps him quite busy, and he loves doing the work necessary to keep up his property. When approached about coming on to the 50th, he was doubtful. After our stay in Santa Barbara, we moved up to San Francisco for a week and then motored up here through the Redwood Highway. The scenery was just grand, as you may already know. On our return from a trip to Victoria and Vancouver, I had the pleasure of a call from Gerald Frink. He is still active as the head of the Washington Iron Works, and according to his statement he still intends to keep in business. I requested him to write you and tried my best to get him to say he would come on for the 50th."

Fred Southworth, in a letter to Joe Draper, says: "I am retired from the Navy and Navy Department work, although I still keep some consultation work on architectural projects, and I am enjoying life hugely. By telephone I can be reached either at my home, Columbia 7744, or at the University Club, where I receive my mail and stay a good bit of the time."

We are happy to report that George Russell, after nearly two years of illness, at last says that he is definitely improving and hopes shortly to be in circulation again. — ELBERT G. ALLEN, Secretary, 54 Bonad Road, West Newton 65, Mass.

## 1901

Austin Hyde of Damascus, Va., writes that he is only 12 miles from Abingdon, home of the Barter Theatre and would be delighted to have old friends drop in, if passing through. Ed Seaver says, now that he is retired, he spends his summers in Duxbury and the winters in Clearwater, Fla., where he sees Al Higgins quite frequently.

A note from D. Leighton Ordway reads as follows: "I retired from the National Carbon division of the Union Carbide and Carbon Corporation at 50 in 1929 and took a three months' trip in France and England with the car. Since then, I have taken a two months' trip to Mexico, and I am thinking of Guatemala this summer. I play a fair game of chess and a pretty poor game of bridge. I used greatly to enjoy the New England mountains, but a bit of arthritis four or five years ago has cramped my style a bit so that I have to confine myself to the easy ones now. I am glad to note that you take your duties as class secretary seriously. Perhaps that is one of the reasons for the flourishing condition of the treasury. Anyway, your letter is well worth the two dollars it costs."

A post card from Fred Connolly, postmarked Honolulu, reports: "This is our third day at sea, April 12. You may be glad to know that I am on my way to the Orient. My youngest son is with me, on the *President Cleveland*, bound for China and Japan." — Bob Williams reports that as engineer for the Submarine Signal Company his work is mostly designing apparatus for the Navy, which takes him often to Portsmouth, New London, and Washington. He adds, "Nothing new except that I have a new granddaughter, seven months old. I saw in the *Herald* recently that William J. Newlin is retiring from Amherst, where he has been a professor. And I think that Philip A. Potter is deceased."

Arthur Trenholme sends this news from Oak Grove, Ore.: "I retired from school teaching in 1942 and took a course in sheet metal work that summer. I then spent the war years building ships for England and the U.S.A. at the Willamette Iron and Steel Company and retired for good in 1945." — Charles Tufts says that he spends considerable time at his Syracuse home at 215 Stolp Avenue but is in Manhattan more than anywhere else.

I report with regret the death of Miss Edith M. Hobbs on December 21. We have no information about her except that for some time our records have shown her address as 102 Thornton Street, Roxbury, Mass. — Angus MacInnes reports that since retiring on February 28, 1947, he gardens in the summer and practices woodworking during the winter.

Al Higgins writes in part as follows: "I was delighted to get your letter of the first of February and am enclosing herewith my contribution of \$25. Whether this is a

sustaining membership or not, I do not know. Anyway, it doesn't make any difference. [It will be very sustaining, and how! — G.C.P.] Congratulations on the improvement of the financial condition, which I trust, will continue. I suppose that we must all be thinking of what the Class is going to do in 1951 for a financial memorial to the Institute, similar to the precedents of these last few years. [Phil Moore has also written to me on the same subject together with other ideas for our 50th reunion. — G.C.P.] I recently had a very pleasant short visit from Frank Holmes and have seen Ed Seaver two or three times this season. I hope to see more of him before he returns north in May."

A post card from Harry White reads as follows: "Will you please change my address on your records to 1 New England Avenue, Apartment 18-A, Summit, N.J. After more than two years' search, we have at last found an apartment that we like where we want to live. We had a wonderful winter in Sarasota and expect to go to Maine for the summer as usual." — Will Farnham says "I have returned from a five weeks' stay at the Carolina, Pinehurst, N.C. where I found the sand traps quite as full as ever. I have been in them so many times that I am not so bad in getting out of them — my only good point at golf!"

Wilford DeBerard makes this report: "Old Man Winter' has been tough with us this season, closing up one of our intakes with frazil ice for several hours and depriving a million people of water for three hours or so. They appreciate it now. The 320-million-gallons-a-day filter plant for the South District of Chicago, which contains 1,340,000 people, is completed and has gone through a high-consumption summer and odor-and-taste winter period with flying colors. Langdon Pearse and Phil Moore I see on occasion. Langdon looks well and keeps up his end as sanitary engineer for the sanitary district of Chicago, which is the last lap in treating all Chicago's sewage. It's his outfit that keeps the sewage of Chicago out of Lake Michigan, which is the supply my boys have to filter, or chlorinate, to an acceptable drinking water."

We have more news, but it will have to wait until the November issue because of limitations on paper. — GUY C. PETERSON, Secretary, 788 Riverside Drive, New York 32, N.Y. THEODORE H. TAFT, Assistant Secretary, Room 3-282, M.I.T., Cambridge 39, Mass.

## 1902

During the second week in May, I attended the annual meeting of the Society of American Bacteriologists in Minneapolis and took the occasion to look up our classmate, Arthur Nichols, who is of the firm of Morell and Nichols, landscape architects. He went to the Northwest about nine years after leaving Technology and has become firmly established there in his profession. Although unannounced, I was recognized at once, which seemed rather good work on his part, as we had not met for at least 35 years. After a few minutes of greeting and exchanges of personal news, we arranged to meet later in the week for a

more leisurely visit. At that time Nichols brought his car and took me on a tour of his "city-of-the-lakes," of which he is very fond, as well he may be. In the beautiful residential section, the dwellings are grouped among lakes and woods which provide outdoor enjoyment in both summer and winter.

We visited the University of Minnesota, where I was shown some of the more recent projects of the University which Nichols had fathered — the grounds of the Student Union, with an underground garage, and a side-hill parking lot skillfully blended into the landscape. Nichols is largely responsible for the landscaping of the newer university campus and has great plans for its future. In St. Paul, I was shown the quarter around the state capitol, which is to be cleared of its present heterogeneous collection of houses and shacks and developed into an area befitting its location. The actual development is being deferred until the housing situation eases and homes can be found for those who will be evicted.

Nichols' son, who attended Amherst and later studied medicine, is now practicing his profession at the nearby Mayo Clinic in Rochester, Minn. His married daughter is also living in Rochester, as her husband is at present connected with the clinic. While speaking of sons, it may be added that I took advantage of the opportunity to visit my son, Richard, in Chicago, where he is a cub reporter with the Chicago News Bureau. — BURTON G. PHILBRICK, Secretary, 246 Stuart Street, Boston 16, Mass.

## 1904

By the time these notes appear in print, Alumni Day will have come and gone. There were only two responses to our request two months ago for suggestions about a reunion this year. It seemed unwise to go ahead with this lack of interest. Next year will be our 45th, and we ought to get together at that time to discuss plans for our 50th, which will be here before we know it. There is a growing custom for 50-year classes to make a substantial special gift to the Alumni Fund. If we are to conform to this custom, it is high time that we made some definite plans toward collecting the money. The Review states that the Class of 1915 has already appointed a committee to raise their half-century fund.

Class news is rather scarce. Fred Anderson reports the best winter in Florida for years. He had planned to attend the reunion which we didn't have. George Curtis, one of the star athletes of the Class, has kept in good physical shape all these years working for the Massachusetts department of public works. His department will have plenty to do after last winter's ravages on Massachusetts roads. George was the second man who voted for a reunion.

The deaths of two classmates have been reported to us. Captain Lewis B. McBride, who took Course XIII-A with our Class, died in Washington on October 7. No details are available. The second loss is Ralph Williams, III. For many years Ralph has held an important position with the Metal and Thermit Company at their New York office, and Course III men who attended the annual New York meetings of the American Institute of Mining and Metallurgical En-



gineers always looked forward to meeting him, for he was sure to be present at some of the sessions. As a student he was for a time president of the Mining Engineering Society. It is reported that the cause of his death on April 6 was cancer. Mrs. Williams died a year or more ago. Their son Ralph has our deep sympathy. — EUGENE H. RUSSELL, JR., 82 Devonshire Street, Boston 9, Mass. CARLE R. HAYWARD, Room 8-109, M.I.T., Cambridge 39, Mass.

### 1906

The Secretary regrets the omission of notes in the May Review. They were due on March 20. At that time the Secretary's schedule seemed to offer no opportunity to prepare the notes, thus for the second time in his regime the Class was not accounted for. Our apologies to our readers.

The New York *Herald Tribune* of February 22, included an illustrated article about a mill at New Rochelle in that state which makes woodwork for mansions, apartments, churches, and so forth. The mill is operated by the Nurocco Woodworking Company, of which F. B. Guest is the president. Guest was a Course XIII man and, quoting from the article, "Distress at the amount of inferior woodwork he observed in fine homes — the amount of woodwork that 'missed' — stimulated a desire to produce something which would be artistic and of good value to the home. Under his direction, beginning about 1910, the company began to specialize in the highest quality architectural mill work. Today the firm's customers are a virtual bluebook of architects, construction firms, national industrial concerns, institutions and quality department stores and specialized shops."

Six members of the Class attended the annual midwinter meeting held at the Walker Memorial on February 7. The meeting was of particular interest to the Secretary, as it was a demonstration of radio in modern telephony and was conducted by George W. Gilman '23. Classmates who attended were: Sherman Chase, Ned Rowe, George Guernsey, Chester Hoefer, and Ralph Clarke.

Five days later the Secretary was shocked to learn of Ralph's death. He passed away suddenly at his place of business. Ralph was a graduate of the Electrical Engineering Course and after graduation entered the employ of the American Telephone and Telegraph Company in Boston. In 1907, when they moved their headquarters to New York, he remained in Boston and was with the Lamson Store Service Company for a while. For the last 30 years he had been with the Henrici Laundry Machinery Company and was president at the time of his death. He had been active in Masonic circles and the Order of DeMolay. At the time of his death, he resided in the same house where he lived with his two sisters while attending the Institute. He never married. He had always been intensely interested in communication and radio and at one time had his own radio transmitting station. Recently, he was assembling a television set. Interested in class affairs, he had kept in close touch with the Secretary, who feels a personal loss through his death. Ned Rowe, Charlie Kasson, and the Secre-

tary represented the Class at the funeral services held in Dorchester on Sunday afternoon, February 15.

Some months ago, Charlie Locke '96 informed us that Ray Barber is now living in Hollywood. He is teaching half time at the University of Southern California, and actually the other half of his time he is assistant to the dean of the college of engineering for the co-ordination of evening classes, there being 1,500 students with 63 instructors in the engineering night school. Also, just to round out his schedule, he is counselor for foreign students, of which there are 73 in the engineering group.

The Secretary had occasion to go to Portland, Maine, on February 4, and took the time to call George Hobson, who is now living in South Portland. George's younger son, John, was graduated from Drexel Institute of Technology in Philadelphia early in the year and accepted a job with Stone and Webster for work in Baton Rouge, La.

Charles F. Willis of Phoenix, Ariz., Secretary of the Arizona Small Mine Operators Association, presented a paper at the meeting of the American Mining Congress (Western Division) at El Paso last October entitled "Problems of the Small Mine Operators." Under the date of March 23, Charlie Locke states that Willis has been made chairman of the subcommittee on public lands of the National Mineral Advisory Council.

The January class notes reported that R. J. Ross had been honored by the City of Hartford for 40 years of service with the city engineering department. The *Hartford Times* of December 8, announced that Ross had asked to be retired from the city service on December 20. In his letter to Mayor Allen of Hartford submitting his resignation, Ross included the following passage: "The 40 years have passed quickly and pleasantly. I have enjoyed splendid relations with the mayors of our city, with my brother officials, with my capable co-workers in the department, with the entire municipal family, and with the citizens of Hartford in general. It has been my good fortune to have helped plan and to have been somewhat responsible for the accomplishment of many important municipal improvements, resulting in a personal pride and satisfaction definitely felt but difficult to express." Mr. Ross said that after these 40 years during which he has had little time to do many of the things he has wanted he will travel. "There are many great engineering works that I have always wanted to see," he added. "Now I intend to see some of them."

Classmates will be shocked to hear of the death of Ray Philbrick on March 25 at Winter Park, Fla. The following notice about Ray was taken from the *Hartford Courant* of Saturday, March 27: "Halsey Raymond Philbrick, president of Philbrick-Booth and Spencer, Inc., iron foundry, died in Winter Park, Fla., after a short illness. Mr. Philbrick, his father, Halsey B. Philbrick, and his father-in-law, Thomas T. Booth, organized the foundry in 1916. In 1927 the business consolidated with the Hartford Foundry Company of Wethersfield. Mr. Philbrick was a charter member and past president of the Hartford Squadron, United States Power Squadrons, Inc.,

and in 1938 was a rear commander in the national organization. He was the second local man to attain national office in the power boat group. He was also an active member of the Essex Yacht Club and had been a member of the Hartford Engineers Club, and Technology Club of Hartford. He was a member of the Asylum Avenue Congregational Church. Mr. Philbrick was a graduate of Phillips Academy, Andover, and of . . . Technology. He leaves his wife, the former Vera Douglas Booth; a brother, Harry W. Philbrick of Hartford; two daughters, Mrs. Constance P. Linke of West Hartford and Mrs. Annette Carvalho of Virginia; and several grandchildren." Memorial services for Ray were held in Hartford on Friday, April 2, at the Gross Memorial Chapel of the Asylum Hill Congregational Church. To the group of classmates who attended the five-year class reunions, Ray's death will mean a distinct loss in that he and Mrs. Philbrick were very faithful attendants at such affairs, to which their presence greatly added. The Secretary feels that he has lost one of his most loyal classmates as Ray was always most helpful in class matters. Sympathy is extended to Vera and to his two daughters. The Secretary acknowledges the interest of Ernest Smith, who is now located at Wildbore Farm, Old Chatham, N.Y., of Chester Hoefer, Ralph Patch, and Malcolm Wight in forwarding information concerning Ray's death. — JAMES W. KIDDER, Secretary, 50 Oliver Street, Boston 7, Mass. EDWARD B. ROWE, Assistant Secretary, 11 Cushing Road, Wellesley Hills 82, Mass.

### 1907

In my notes in the June Review, I told of the death of John Thomas and said that I would try to secure information on the circumstances surrounding that event. As the result of a letter that I wrote to his former residence, 99 Magellan Avenue, San Francisco, I received under date of May 13 a letter from Mrs. F. J. (Lillian) Kelly, who is one of John's daughters, from which I quote in part: "Dad was not at home when it happened — he was aboard the *Mauretania* on his way to Europe. We have never heard from anyone in an official capacity on the ship, but his cabinmate and some of the passengers were kind enough to write us the details. He suffered a heart attack on the night of the 5th and died early the next morning. Dad had a very severe heart attack in 1940 but had been very well ever since. He was careful not to overdo, but I guess the shots (typhoid, smallpox, and so on) and the excitement of the trip were what caused this last attack. This was the trip he had wanted to make all his life and would have made sooner, except for the war. He had been preparing for it for several years — studying Italian and relearning his French. He was to have had his birthday dinner in Paris the day he landed. It's no use wishing, but I do wish he could have had that. He loved to travel and made his last big trip to South America just before the reunion last year. Perhaps he told you about that. He enjoyed the reunion very much and pointed out your picture to me as the man who used to teach with him, and was now class secretary. So I did feel

I knew you when you wrote. My sister and I both thank you for writing to us, particularly since you were such an old friend of dad's. Dad was flown home from Paris and was buried here on the 19th. The delay made it seem very unreal. I guess we shall never know more than what his fellow passengers were able to write us. He was traveling alone but made friends so easily he didn't mind. These letters from total strangers certainly proved that. My children, unfortunately, are too young to remember what a wonderful 'grampy' they had."

Eleven men of our Class assembled in the Silver Room of Walker Memorial, Cambridge, on the evening of May 21 for one of our occasional Greater Boston class dinners. Those present were Bob Albro, Dick Ashenden, Howard Chase, Bill Coffin, George Crane, Paul Cumings, Tucky Noyes, Bob Rand, Oscar Starkweather, Phil Walker, and myself. After partaking of one of the fine dinners provided by the M.I.T. Dining Service, we enjoyed a brief interchange of information regarding various classmates who were not present provided by the Secretary and the other fellows, and then F. Charles Sorton '26, who is specialist for Whittin Machine Works in knitting processes and the manufacture and sale of knitting machines, gave a talk on this general subject showing many samples of various kinds of fabrics. He also showed three sound reels secured from three manufacturing companies which provided very interesting information about the processing of wool, cotton, rayon, nylon, and other fibers and their manufacture into cloth either by weaving or knitting.

If the plans announced by Bill Coffin carried through, his daughter, Barbara S. Coffin, was married on June 19 at the family home in Duxbury, Mass., to Howard E. Norris, who is head of the biology department at the Loomis School, Windsor, Conn.—Word received in the middle of May from John Frank stated that he and Sam Marx and Stud Leavell were planning to attend their 45th class reunion at Exeter on May 28—Paul Cumings told us that not long ago he called on Ernest Lewis, who works with Gugler, Kimball and Husted, architects, 101 Park Avenue, New York City, and learned that Ernest was married in 1946 to a lady of about his own age. This was Ernest's first marriage, and at this rather late time we extend to him our congratulations. I understand that he is living in the vicinity of Washington Square in New York.—Frank MacGregor wrote me in May saying that he had met Fred Moses and his wife on a train coming back from Florida last March and that they had a good visit together.—Don Robbins, who was secretary and comptroller of the International Braid Company of Providence, R.I., since 1937, became vice-president of a new firm, Cumberland Machinery Corporation, at 56 Prospect Street, New Bedford, Mass., during April. This concern will deal in textile machinery, electrical equipment, and mill properties. Don will continue to live at 85 Mathewson Road, Barrington, R.I., where he owns a very attractive place.—From a news item in the Boston Herald of April 28, I noticed that Gilbert Small was elected to the board of directors of the

metropolitan chapter of the Massachusetts Society of Professional Engineers for a period of three years at a meeting held on April 27.—William A. Young, who was associated with our Class in Course I and who during recent years has manifested a real interest in our Class, has written me that in July, 1945, he sold the retail hardware store in Exeter, N.H., that he had managed for many years and is now giving all his time to the Exeter Banking Company as its vice-president and to the Exeter Hospital as the president of its board of trustees.—BRYANT NICHOLS, Secretary, 23 Leland Road, Whitinsville, Mass. HAROLD S. WONSON, Assistant Secretary, Commonwealth Shoe and Leather Company, Whitman, Mass.

## 1908

The third and final dinner meeting of the Class for the 1947-1948 season was held in the main dining room at Thompson's Spa, on Washington Street, Boston, on Tuesday evening, April 20. The following were present: Jeff Beede, George Belcher, Bill Booth, Nick Carter, Myron Davis, George Freethy, Harold Gurney, Sam Hatch, Ted Joy, Doc Leslie, Steve Lyon, Linc Mayo, Miles Sampson, and Henry Sewell. Plans for our 40th reunion in June were discussed.

Joe Wattles took a combined business and pleasure trip to South America during May and June, attending the International Rotary Convention at Rio de Janeiro. We should see some fine pictures of his trip at the next fall and winter meetings.

Gregory M. Dexter has announced that he has leased space in the Empire State Building, New York City, in which to conduct his business of professional engineering. In January, 1948, the American Society of Civil Engineers conferred a distinctive award on Hardy Cross, professor of civil engineering at Yale University, by making him an honorary member of the organization in recognition of his contribution to the profession. W. D. Milne has been appointed manager of the Eastern Inspection Bureau of the Eastern Underwriters Association, located in New York.

We regret to report the deaths of the following classmates: José Muriel in Mexico on July 26, 1940, of which notice has just been received; and Harry L. R. Nickerson, chief engineer of the Brooklyn Union Gas Company, which occurred on March 25.

The following changes of addresses may be mentioned: Robert Amory, Springs Mills, Inc., 200 Church Street, New York 13, N.Y.; Edwin M. Price, Route 4, Independence, Mo.; Warren D. Spengler, 660 Ash Street, Denver 7, Colo.—H. LESTON CARTER, Secretary, 60 Batterymarch, Boston 10, Mass.

## 1909

In the May Review we reported that the 40th reunion day had definitely been set for June 4, 1949. Since that time, however, we have learned that Alumni Day for that year may be changed to Monday, June 13. If so, this would be ideal for us since we could have our reunion on Saturday and Sunday, June 11 and 12, and then combine Alumni Day all in one week end. Both Art

Shaw, I, and Heinie Spencer, II, are in close touch with Charlie Locke '96, Secretary of the Alumni Association, and stand ready to make definite arrangements as soon as the date of Alumni Day is settled.

From Paul: "Now that our Molly Scharff, XI, is out of uniform and back from his mission to Greece, I stopped in at the familiar Madison Avenue address the other day to pass the time of day. And there he was in an inner sanctum surrounded by more logarithm tables, slide rules, and calculating machines than I had seen in many moons. Certainly Molly was back in civil life with a vengeance! And he gave me as I left a copy of the March 'Reserve Officer,' house organ of the Reserve Officers Association. There was an article by Molly himself. It was entitled 'Universal Mobilization for War Purposes' and was a masterly plea for more complete mobilization of our national resources of both personnel and national wealth in time of war. Molly convincingly points out some of the differences between the civilian and the mobilized sectors of our people, among other things, in the way of income. What was said looked to me like the opinion of one who knew what he was talking about . . . and I wish him well in whatever he tackles, as I am sure we all do. Molly gave a good report on the family and dropped the news that Samuel Adler Scharff, the Fried Clam Kid of our 25th reunion at Oyster Harbors in 1934, has his degree from the Institute and is well and happily located in Jersey City with a well-known firm that makes heavy powerhouse equipment. As you know, Samuel was in Japan during the war; and he and I get on together like wheels in a watch when we occasionally have lunch together. I ran across this very morning the photograph of that blessed 25th reunion taken, of course, in 1934. There is dear Charlie Main, II, right down there in the front row: and Jim Critchett, XIV, and George Wallis, II, and Reg Jones, VI, and Molly himself. Dale Ellis is tanned to the shade I envy: the color of a well-broken-in meerschaum pipe, and Horace Ford who, as you may remember, was our guest to represent the Big Shots, looks no older than—well—your friend Paul. Both Art Shaw and Heinie Spencer look as smart as ever, and I am sure they'll have a simply swell party next year for our 40th, which is less than a year away! You'll be hearing in every issue of The Review, I am hoping, from Art and Heinie about the splendid plans they have in mind! I am not mentioning other members of the 1909 gang, nor the ladies who so delightfully are gracing the scene! I think I express the hope of us all that the 40th will be as happy an event as that noble 25th!

"You know I served for five happy years as honorary secretary and thus know the Admissions Office pretty well. Always Bat Thresher '20 and I got on particularly well. I am still very fond of Bat. In fact, I presume I know him better than I know any other big shot at the Institute. Just a few months ago Bat made me very happy indeed. For I was invited to a luncheon party at the Engineers Club here in New York with other honorary secretaries when Bat and Paul Chalmers and Lobby '17 were in



town: and I asked Bat whether I were still active enough to rate a bid to the party. Thank Heaven, he told me to be sure and come. I did, as you can guess. And just the other day I wrote Bat to ask him to meet a man from the Netherlands whom I know well. Mr. Severiens has a son and wanted to see whether the boy might go to the Institute. In telling Bat about young Hans, I laid some emphasis on his being a lad from Holland who would bring a Continental flavor to the classes he attended — a good thing, I felt, for the Institute as well as the other students. In our Class most of us were from New England. Few were from the West, and even fewer were from out of the country. And this is what Bat wrote back: 'I think you are a little behind on your information about our geographical diversification. In the last 15 years or so, we have swung over into a situation in which two-thirds of our students come from outside New England, and the local group now represents a much smaller portion of the total than formerly.' To me, this is good news. Shortly after the First War, when I was trying to get a passage from San Francisco to Singapore, I well remember going down to Stamford and being so impressed by Palo Alto that I felt that no one from New England would make a mistake in applying for admission there. Conversely, boys from the West Coast might well go to New England to college. Moreover, I am rooting for Hans Severiens."

In the April number of the *Bell System Technical Journal*, there is a paper "Frequency Shift Telegraphy — Radio and Wire Applications" by J. R. Davey and A. L. Matte, VI. The same paper was also published in the *Transactions* of the American Institute of Electrical Engineers in 1947. It describes a method used during the war which provided the Allied Powers with a world-wide, automatic printing telegraph network for handling with precision, secrecy, and dispatch the unprecedented volume of traffic that developed. It is expected that in the next few years its use will be widely expanded by commercial telegraph companies. We congratulate Andrew for his part in such an important contribution to the field of communications.

We have learned that Garnett A. Joslin, III, representative in Mexico for *Compagnia Metalurgica Mexicana* was in New York early in January to attend the directors' meeting of his company. He is a resident of Mexico City. — From Pittsburgh comes the news that the first appointment to the newly-formed Allegheny County traffic and transit commission is Joseph H. White, XI, who became chief engineer on May 1. For 12 years he has been head of the traffic division of Allegheny County. He is a registered engineer of Pennsylvania and is co-author of the book *Bridges of Pittsburgh*. He is to prepare a master traffic and transit plan for the county, study parking on main highways and streets, and study the location of bus stations.

David G. Hulett '42, Secretary-Treasurer of the M.I.T. Club of the Kanawha Valley, West Virginia, has sent us a clipping telling of the death of Wilbur Meanor, IV. The clipping shows his picture and includes a long list of his activities and accomplish-

ments. He was 60 years old and died at a Charleston hospital of a gastric hemorrhage on May 6. He was born in Turtle Creek, Pa., and prepared for the Institute at Washington and Jefferson College. He began his professional work in Pittsburgh and in 1912 went to Huntington, W. Va., where he continued his professional work until 1929, when he moved to Charleston and became senior member of the architectural firm of Meanor, Griefe and Daley. He designed many of West Virginia's largest buildings, including those of the Chesapeake and Potomac Telephone Company in Charleston, Wheeling, Clarksburg, and other cities, several bank buildings and theaters. During World War II, he spent two years with the Army Engineers at Huntington. He was a Mason, an Elk, and a member of the American Institute of Architects and of Beta Theta Pi Fraternity. He is survived by his widow, Mrs. Isobel Meanor, and three daughters by his first marriage to the late Frances Jamison of Greensburg, Pa., Mrs. D. C. Kennedy, Jr., Mrs. Bronson Clark, and Miss Frances Meanor. — PAUL M. WISWALL, Secretary, 90 Hillside Avenue, Glen Ridge, N.J. CHESTER L. DAWES, Review Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass. Assistant Secretaries: MAURICE R. SCHARFF, 285 Madison Avenue, New York 17, N.Y.; GEORGE E. WALLIS, 1606 Hinman Avenue, Evanston, Ill.

#### 1910

Vahan Yacoubyan passed away in Philadelphia on November 19. He had been with the Petroleum Heat and Power Company for many years.

Frank Bell has received further honors from the Army, as may be noted by the following from the Adjutant General: "By direction of the President, by and with the advice and consent of the Senate, you are appointed Brigadier General, Officers' Reserve Corps, Army of the United States, to date from 26 April 1948. You will not perform any active duty under this appointment until ordered to active duty by competent authority." Frank comments that he will now have to pitch in until he is 62.

Nat Seeley sent me a clipping from the *New York Times*, to the effect that Luke E. Sawyer, general superintendent of the Babcock and Wilcox Tube Company since 1939, has been elected vice-president and general manager.

John Gray appears thus in the *News of Salem, Mass.*: "John M. Gray was named representative member of the state board of housing to the Salem housing authority during a meeting of the state board of housing held on February 2. He studied for one year in Europe and also attended Carnegie Tech in Pittsburgh, Pa. He was a member of the Salem school committee for three successive terms and served for 20 years on the board of appeal, six years on the planning board and two years on a committee to revise building ordinances. Mr. Gray also served on the housing committee, prior to the organization of a housing authority."

Carl Lovejoy, who is with the New England division of the Corps of Engineers, writes as follows: "We closed our house in Barrington and stayed in Boston all

winter to avoid the trials of commuting. It was much more satisfactory walking to work in five minutes than making the trip to Providence by train in the snowy weather. I have charge of the construction division for both military and civil works, including the Veterans Administration hospitals, and there is so much government red tape, as you may remember, that I never seem to find time to get out to see the work in the field as I should like to do."

I had the pleasure of seeing Bill Haugegard on one of my recent trips to New York City. Bill is now a consulting and practicing architect since he terminated his job as state architect. He has some very large commissions and he showed me the drawings and models for them. They were beautifully presented and showed his keen insight in the development of his problems.

The television set for Ed Stuart at the West Roxbury Hospital has been installed, and we are now awaiting the completion of the transmitting station. The response for purchase of this set was most gratifying, and it was possible to get one of the best on the market. Arrangements are such that the set may be in Ed's room and can also be moved to the recreation hall where all the patients may enjoy the programs. Ed himself can be taken to the recreation room in a wheel chair. At the opening program, I hope to have as many 1910 men present as the hospital will allow. — HERBERT S. CLEVERDON, Secretary, 120 Tremont Street, Boston 8, Mass.

#### 1911

A heart attack wrote an unexpected end to the success story of one of 1911's most illustrious and beloved members — Peter Desmond White, II, President of the Babcock and Wilcox Tube Company. He died near Salem, Ohio, on May 6 — less than a month after he had been elected the tube company's president — while on a routine inspection trip from the main plant at Beaver Falls, Pa., to the branch plant at Barberton, Ohio, in company with four other company executives, including Luke E. Sawyer '10, who had succeeded Pete as vice-president when the latter was named president on April 8. Luke Sawyer reports that on the trip Pete complained of not feeling well and asked that the car be stopped so he could "walk around." He collapsed beside the car and was dead before his associates could summon medical aid.

Pete — fondly known as "Uncle Peter" to his associates — was born in Dublin, Ireland, on June 25, 1889. He came to this country in 1907 and entered the Institute with us in the fall of 1907, having prepared at Clongowes Wood College, Kildare, Ireland. His ready smile, his choice brogue and easy wit, along with athletic prowess and a most pleasing personality, immediately made him popular with his classmates. He was on the class relay team in his freshman and sophomore years and also found time in his freshman year to be a Tech Show principal and through all four years was a member of the varsity track team, becoming the team's star miler and a valuable member of the mile and two-mile relay teams. A member of Lambda Phi Fraternity, he was also active in the Catholic Club and a member of

the Technique electoral committee, the Junior Prom committee, the class day committee and Osiris, senior honorary society. He wrote his thesis, "Coefficient of Friction of Asbestos Brake Bands," with Don Stevens, II, and the two became very close lifelong friends.

After holding briefly a minor position with the Canadian Pacific Railway, Pete began his career with the main Babcock and Wilcox firm 33 years ago because, as he had said shortly before his election to the presidency of the tube company, it looked like "a good company to work for." He started as a 26-cents-an-hour assistant machinist at Bayonne, N.J. From there he went to Barberton to direct inspection at the shell shop. His work attracted the attention of Isaac Harter, now chairman of the board of directors, and Pete was transferred back to Bayonne to direct the change-over from peacetime to wartime production in World War I, later becoming executive assistant to the vice-president in charge of manufacture. In 1939, he was transferred to the tube company at Beaver Falls, and during World War II he directed the wartime production of the big plant there, which now employs 3,500 persons at the job of manufacturing seamless tubes. In January, 1943, he was named vice-president and general manager of the Babcock and Wilcox Tube Company. A year ago, he was promoted to be executive vice-president and a director; and in April, president.

Despite his busy schedule, Pete found time recently to be chairman of the building committee for the Beaver Valley's Providence Hospital. He was also a member of the Duquesne Club, the Allegheny Country Club, the Pittsburgh Club, and St. James Catholic Church at Sewickley, Pa., where he maintained his home in recent years and engaged in his hobby of gardening. Surviving are his widow, Rosamond; a nine-year-old daughter, Victoria Susan; three brothers, and two sisters. Pete was following in the footsteps of a most illustrious family, all of whom figure in success stories. His brothers are Thomas J. White, Hearst newspaper executive, of New York City; Victor White of Cedarhurst, N.Y., the artist; and James M. White, a Kansas City business man. His sisters are Mrs. George Palen Snow of New York, editor of Harper's Bazaar, and Mrs. Christine Holbrook of Des Moines, Iowa, associate editor of *Better Homes and Gardens*.

Immediately upon receipt of a thoughtful telephone message from Pete's private secretary, Miss Bernice Philip, shortly after his death, I wired Bun Wilson, XIV, requesting him to represent the Class at the funeral, but word later came from Bun: "Although I had hoped to be able to attend Pete White's funeral, other plans made it impossible. I am doubly sorry, in view of your telegram, that this was the case. Pete had made a real place for himself in the community and, as you can well appreciate, everybody was most fond of him. He will certainly be missed."

As proof positive of the high esteem in which the community held Pete, the Beaver Falls News-Tribune ran a leading editorial which said, in part: "Death has written 'Finis' to a typical American success story

and at the same fell swoop cut short the brilliant mechanical career of Peter Desmond White, president of the Babcock and Wilcox Tube Company, and until recently general manager of the Beaver Falls plant. Along with his multitudinous duties at the plant, Mr. White assumed civic and charitable responsibilities, and in his death the industry loses an outstanding business executive and the community a worthy citizen. When Mr. White was elected to the presidency of the tube company, the News-Tribune extolled his qualifications and fitness for the office and extended its own congratulations, as well as those of his host of friends in the Beaver Valley, upon his elevation. Gratitude engenders consolation in that deserved tribute was accorded him while he was yet among us. Under Mr. White's guidance the local plant made tremendous strides in output, quality of its products and plant growth. . . . Peter D. White also made a very real and important contribution to victory in World War II through his almost superhuman efforts in converting the local plant from peacetime to wartime production. The full story of the Babcock and Wilcox Tube Company's contribution to the war effort would make one of the most important in the history of that conflict—all brought about by the cooperation of plant labor and management, inspired by the unfailing leadership of Mr. White."

In her telephone call, Miss Philip informed me that Mrs. White had requested that flowers be omitted at the funeral, and in a following letter Pete's secretary wrote: "In lieu of flowers, it has been suggested that if people care to express their respect for Mr. White they may do so by sending checks for the amount they would ordinarily spend for flowers to the Providence Hospital, Beaver Falls, Pa. Mr. White was deeply interested in this hospital and in 1945 was responsible for raising funds in the amount of \$165,000, which is a sizable amount of money for a community of this size. The money was used for a lovely addition to the hospital, which was badly needed, and we propose to use the flower fund toward a useful memorial to Mr. White at the hospital." Don Stevens, our Class President, has started the fund for us with a personal check for \$100.

Both Don and I have recent evidences of Pete's sense of humor to the end. Don was away on his now annual fishing trip to Miramichi in early May, and in a letter dated April 23, which he found on his return, Pete had written in response to Don's congratulatory letter on his Babcock and Wilcox presidency: "Referring to your last paragraph, where you attribute my small measure of success to the power of a woman and lament what could have happened if I had married earlier, is it not possible that this situation could be offset by my promptly becoming a Mormon? Before you make a disparaging remark, please remember what a wonderful spurt I always put on at the end of a race!" In an accompanying letter to me, copies of which went to all Pete's immediate survivors, Don said: "Pete was one of my closest and surest friends. With me Pete was an ace. He was due many successful years ahead. Indeed, we

shall all remember the 'wonderful spurt that he put on at the end of his race,' a spurt exactly like those which we saw so often when points were needed to win a track meet. Pete was always digging in every moment on the track, but at the end he came through with something extra to win. We know that Rosamond Borland White will do the same. We have her description as she turned to leave at the end of the service—a good wife, a grand soldier marching out with chin up facing all Pete's friends. Rosamond may feel that she is part of the Class of 1911 and that her nine-year-old adopted daughter, Victoria Susan White, is a daughter of the Class."

On the same date, April 23, Pete had acknowledged my congratulatory letter, saying: "As to writing you in further detail, would you like me to write you a treatise on any of the following: (1) From hunky to president by five-cent hourly increases? (2) Wayward children and how to beat sense into their heads? (3) The proper method of mistreating one's wife? (4) The much-neglected benefits and pleasures of alcohol? (5) How to grow white flowers in a black atmosphere? (6) How I failed to become a union president? (7) Why the world and people are going to hell? (8) Why I shall be desolately lonely in heaven?" There, if ever, was a man!

It was nice to hear from Bill Warner, I, oil magnate of Nowata, Okla., in late April. He sent along an article about his old home town, Titusville, Pa., which had just appeared in a Pittsburgh paper and had been sent to him by his sister. On the same front page was the story of Pete White's elevation to the tube company presidency, and Bill wrote: "When I was back at the 1941 reunion, I had a long talk with Pete. He gave me a number of details about his family—his mother in particular—which were not only very interesting, but gave me an idea of his background and account well for what he has done in life. There is no news of interest from Nowata."

On May 15, in the chapel at the St. Andrews, Md., Air Force Base, Julia Churchill Kenney and Edward Carl Hoagland, Jr., an Air Force lieutenant, whose engagement was reported in last month's 1911 notes, were married. Escorted by her father, General Kenney, I, the bride was attired in the duchesse satin wedding gown that had been worn by her mother and grandmother. She was attended by her sister-in-law, Mrs. William R. Kenney, and the best man was William Pierce Hoagland, a brother of the bridegroom. The couple will reside in Washington. Mrs. Hoagland was graduated from the Bradford Junior College and the University of North Carolina, while Lieutenant Hoagland attended The Citadel in Charleston, S.C., and served in World War II.

About a week earlier, George, the commanding general of the Strategic Air Command, had bluntly warned the 56th annual convention of the Maine Federation of Women's Clubs, in a speech at Bangor, Maine, that he believes Russia will attack the United States as soon as she feels she can win, pointing out that the age of an atomic war across the North Pole is here and that if the United States is to survive



we cannot delay much longer in winning back air supremacy. A warning service, with fighter defenses capable of shooting down enough hostile aircraft to prevent a repetition of attacks, is a "must" item for national defense, George said. "But most important of all," he continued, "is the long-range striking force composed of heavy load-carrying bombers and the long-range fighters to protect them. This furnishes the best guarantee that the transpolar assault will be stopped, that the battle for air will be won, and that the final phase, the occupation of strategic and controlling localities in the enemy country, can get under way.

"At the international conference tables, we are listened to in direct proportion to our military strength, and right now we haven't the number one air force. We cannot delay much longer in regaining that position, which we held only a few years ago. Whatever else we do to preserve this country, we must not neglect our technical research and development. If we want to have the best air force in 1953, we must begin building right now, for regardless of disparity in man-power resources, if we remain ahead in technical development and win the air war, we need not fear defeat if we should again be forced into conflict. We need a balanced military establishment, but unless that establishment includes the best air force in the world, if we do get into another war, the United States as we know it may cease to exist."

Reviewing western civilization's battles against the East from the Greek wars with Persia onward, George called communism "the same old threat from the same old direction, but wearing new clothes and masquerading as a doctrine of progress when in reality it is a movement of reaction." He believes the question today is quite simple and dire, to wit: "When will the Communist crowd start 'Operation America'?" and his answer is that "it will be as soon as they feel that they can win in a conflict against us. . . . They are leaving no stone unturned in their endeavour to solve the secrets of atomic energy," George concluded, "and it will not be more than a few years at best before they will possess a stock pile of atom bombs which may tempt them to start their bombers on the way to smash our centers of industry and population—and the direction for us to look is no longer east or west, but north!"

Lou Golden, VI, as general chairman, this spring conducted a highly successful Combined Jewish Appeal of Greater Boston campaign. Lou, who with a partner leases and operates the boys' department at Kennedy's in Boston, is a director of the Associated Jewish Philanthropies and a trustee of the Beth Israel Hospital and Temple Israel in Boston.

Don Stevens, by the way, commenting on his early spring fishing trip to the Miramichi in New Brunswick, writes: "I had quite a lot of excitement and landed some beautiful fish with it—including 23 fine salmon. One 12½-pound lady struck on our last cast before going into lunch one day, and we finally took her in three hours later and so were four hours late to lunch. Besides the usual process of nursing her through a lot of long runs and leaps, there were times

after she got down in narrow water behind an island that we had to stone her, which neither impressed her nor made her run. We were in and out of the canoe three times, and twice we had to go for her with the guide's pole. Eventually, after drawing her into quiet water at the foot of the rapids, the guide got his net underneath her with a bootful of water in the bargain. She was hooked only by the outer membrane on the right side of the jaw."

We were more than pleased in mid-May to learn that our noted etcher, John Taylor Arms, IV, of Fairfield, Conn., was one of two men recently elected members of the American Academy of Arts and Letters and that, as a result, some of his work is to be exhibited at the Academy Art Gallery, Audubon Terrace, off Broadway between 155th and 156th streets in New York City, from May 22 to June 30, inclusive.

O. W. Stewart, I, manager of the Associated Factory Mutuals, with headquarters at 184 High Street, Boston, sends this note: "John Wilds, I, was nominated for president of the National Fire Protection Association at its annual convention in Washington, D.C., from May 10 to May 13. Election by the N.F.P.A. board of directors in June is just a formality. At other times John is president of the Protection Mutual Fire Insurance Company at Chicago, one of the nine Factory Mutual companies."

Rufe Zimmerman, IX, Vice-president in charge of technology, for the United States Steel Corporation of Delaware, speaking before the New Haven chapter of the American Society for Metals in mid-May, classed American steel production as a major accomplishment, taking sharp issue with critics of the steel industry's productive capacity. He said the industry has expended vast amounts in the last eight years to enlarge and improve its facilities, adding: "Last year, operating at an average 93 per cent of rated capacity, the steel industry in the United States produced between 53 and 54 per cent of the total world production of steel, which represented an increase in production of 60 per cent over 1939." Although expansion costs are now three times higher than in 1939, Rufe said the industry has decided on a sound and orderly course of expansion so as to maintain steel prices at the lowest possible level.

We hope you noticed the picture on page 384 in the May Review of J. Willard Hayden digging the first spadeful of sod at the ground-breaking ceremony of the new Charles Hayden Memorial Library at M.I.T., for there between President Compton and Mr. Hayden was our illustrious classmate, Ralph Walker, IV, representing the architects, Voorhees, Walker, Foley and Smith of New York. The new building will occupy a site between the main educational buildings and Walker Memorial and will demonstrate the most up-to-date in library architecture, construction, and equipment.

We're delighted to record that Al Wilson, I, of the A. O. Wilson Structural Company in Cambridge, and President of the Rotary Club of Cambridge, has been elected to the Salvation Army's Greater Boston advisory board. You know Al has also found time for seven years now to serve as a consul representing Sweden in New England.—

It is also pleasant to report that Paul Kellogg, IX, is now president of the M.I.T. Club of Quebec. Paul, you know, is the head of Stevenson and Kellogg, Ltd., consulting engineers, 970 Sun Life Building, Montreal, P.Q., Canada.—We had rather lost track of Fred Covill, II, who was last at Brewer, Maine, but we recently learned he is now at 138 College Avenue, Malone, N.Y. C. Phillips Kerr, II, a colonel, is still active in Army service in Washington but has moved from Alexandria to the Fairlington section of Arlington, Va., where he is now at 4330 South 36th Street. Ralph Pease, V, has retired from business and is now living at 358 Main Street, West Medway, Mass. Ted van Tassel, X, has moved from Cohasset to 15 Ives Street, Beverly, Mass. And from Albert de Romana, VI, we have received a new address: Santa Catalina 208, Arequipa, Peru.

Thus we come to the conclusion of another volume of 1911 notes, and as this edition is being written three and one half weeks in advance of Alumni Day, the story of 1911's participation therein will of necessity have to await the first fall issue in November. We're off to a good start in Alumni Fund IX, and it's up to us all to see that we again go well over the top and stay up among the leaders in the class records. Oh yes, the Class of 1928—during whose four years at M.I.T., I was serving there as Alumni Secretary—has asked me to be a guest at their 20th reunion at the Wianno Club, Osterville, Mass., on the last week end in June, and I am looking forward to that eagerly.

A pleasant summer to you all, and please remember during the summer, if you run across any classmates or have any items of news interest to Eleveners, to "Write to Denniel"—ORVILLE B. DENISON, Secretary, Chamber of Commerce, Gardner, Mass. JOHN A. HERLIHY, Assistant Secretary, 588 Riverside Avenue, Medford 55, Mass.

## 1912

Heartiest congratulations to Eric Kebbon, IV, Class President, on his award of a certificate of merit by the New York State Association of Architects. E. James Cambero, chairman of the exhibition committee, in presenting the award made the following statement: "At the recent convention of the New York State Association of Architects you were awarded the certificate of merit for the excellence of your work on the J. Fenimore Cooper High School, as shown in your exhibit at the convention. This has been mailed to you under separate cover. We were very happy to have your entries, which added much interest and color to the exhibit. We thank you for your co-operation, and on behalf of the officers and members of the state association, I offer congratulations on being awarded this certificate. With all good wishes for your continued success," and so on, in which the Class joins.

Joseph A. Boyer, II, who spent a year with us and was graduated in law at Boston University in 1912, is now in general civil practice. He is a partner in Nichols and Boyer, Boston, and makes a specialty of taxation. He has been married 25 years and

has a son 23 years of age and a daughter 19, both of whom are now in college. He has served for 12 years as head of the board of the Sawyer Free Library of Gloucester, where he resides. Besides public library administration, his other hobby is resting. He meets Albert Gale once in a while.

John L. Barry, VI, writes that his family consists of four daughters, two of whom are married, and four grandsons. His hobbies are tennis, music, and sailing. He is treasurer of Cynthia Mills, Inc., at 560 Harrison Avenue, Boston.

Charles Cabeen, II, owns and operates a plumbing and heating business in Salem, Mass., with about 15 men working under him at present. He has a wife and two daughters, and his hobbies are stamps and bridge. He says that Jim Cook is about the only classmate that he sees.

Harold G. Manning, X, who is practicing patent law in Waterbury, Conn., sends in the following newsy letter: "You will be interested to learn that I have just built a new home on 121 Eastfield Road in this city and shall be glad to see any of our classmates who are passing through this vicinity."

I have had a call from Harold H. Griffin, who said that he was now living on Newtown Avenue, Norwalk, Conn. For the past three years, he has been vice-president of the Hall-Meslin Company, Inc., who are general contractors with offices at 511 Fifth Avenue, New York. Since graduation, Griffin has had 35 years of experience in all phases of the building business — surveying, engineering, superintendence, estimating, and managing. For the greater part of this time he was with James Stewart and Company of New York. He acted as manager or engineer on such projects as the \$3,000,000 French Pavilion at the New York World's Fair, the Radio Transmitter Building for General Electric at Schenectady, and the West Side Elevated Highway from Duane Street to 72d Street in New York. During the war, he acted as purchasing agent for the \$60,000,000 United States Naval Base in Trinidad, British West Indies."

Lester and Jennie White, while on their way to the American Chemical Society convention in Chicago, stayed overnight in Dearborn, Mich. They telephoned the Tullers, who, however could not be reached until after eight o'clock. Charles and Olga came over to the hotel later, and the four some spent a most enjoyable evening with a lot of talk and a few drinks. It seems that Charles worked at the office very late, although it was Saturday, taking care of last-minute items in connection with the formal display of the new Lincoln cars all over the country the following week. According to Charles, getting deliveries and transportation these days is a hectic affair. Another high spot of the trip was the dinner and evening with Jay and Priscilla Pratt at their home in Oak Park. Jay makes a hobby of color movies and showed some beauties taken in Guatemala and Mexico on vacation trips. He does a superb job on art titles, too. He is going to act as correspondent for the Class in the Midwest. At the convention Technology social hour, Charlie Gabriel promised to send in some notes for The Review. — FREDERICK J. SHEPARD, JR., Sec-

retary, 31 Chestnut Street, Boston, Mass. LESTER M. WHITE, Assistant Secretary, 4520 Lewiston Road, Niagara Falls, N.Y.

## 1914

Howard Morrison reports that he recently visited the Goodyear Tire and Rubber Company at Akron and was greeted by Ray Dinsmore and Bob Moorhouse. Ray was just preparing to leave for London and was having a rather bad reaction from his required inoculations. Morrison refused to believe Bob's claim of being a dirt farmer as well as a chemical engineer, because Bob was unable to exhibit any portion of the state of Ohio beneath his fingernails. And speaking of travelers, Frank Ahern sends word that when he was out in San Francisco recently he spent some time with Thorn Dickinson, including visiting the new Pacific Gas and Electric power station of which Thorn is resident engineer for Stone and Webster.

Phil Morrill, who moved to Boston from St. Louis several months ago, has been elected a member of the Alumni Council representing the M.I.T. Club of St. Louis. Phil has been with Bemis Brothers Bag Company in St. Louis since graduation and is now in charge of their administrative division, which is located at the company headquarters in Boston. Phil Currier's son, Phil Jr., who is a freshman at the Institute, was secretary of the Open House committee, which on May 1 welcomed nearly 30,000 visitors to Technology.

Through the courtesy of the Harvard Medical School, we have learned of the death on October 18, 1946, of William L. Holt. Although Dr. Holt was with us during all four years, he did not take an active part in class affairs. He had already received his doctorate and came to Technology to take special work in the field of public health. After leaving, Holt spent much of his time in the state of Maine, being associated for some time with the state department of public health.

While in Chicago recently for a brief visit, your Secretary telephoned to see how Bob Patten was getting along and was delighted to find that he has made an excellent recovery from his illness. He has returned to his work with the Hotpoint division of the General Electric Company. Bob is a designer of the large industrial heating equipment such as is used on ships and in industrial plants. Bob's home is in Riverside, Ill., just out of Chicago.

There have been references in these notes to the work done by Ernest Crocker in the field of smell and taste. One of the best popular articles dealing with Crocker's work appeared in the May issue of *Ethyl News*. The possibility of changing the taste of foods and medicines is interestingly described. — HAROLD B. RICHMOND, Secretary, General Radio Company, 275 Massachusetts Avenue, Cambridge 39, Mass. CHARLES P. FISKE, Assistant Secretary, 1775 Broadway, New York 19, N.Y.

## 1915

Here beginneth the ninth year of the Alumni Fund. By now, this worthy cause is so firmly fixed in your hearts and in your

minds that I'm not pressuring anybody: Only give at least as much as last year — maybe a little more — and 1915 will go over the top again. And if the few who have not paid their class dues would send their checks, we'll fill up the depleted class exchequer. Many thanks to all.

The interesting letters from far and wide continue. What a Class — 1915!

Jerry Coldwell, writing on the ground (not in a plane for a change) from 8 Brooklands, Bronxville 8, N.Y.: "So you need some dues, do you? Well, the enclosed check should keep you off my neck for a while, anyway. Don't you ever get down to New York for the day? If you do, you must eat lunch somewhere, and it might as well be downtown with me. I'll go to Boston sometime in the next few months. I want to wander over to the Institute and see what is going on, as Bill my older son is at Williams on the Williams-Tech co-operative course and hopes to enter Technology as a junior in the fall of 1949. After some 30 years of traveling, I now spend most of my time in New York, which is a welcome relief. I used to make three or four trips a year to take a look at the larger jobs that we have running in the United States, and as I told you, spent a month in Mexico looking over business there. I didn't see all the tourist spots like the pyramids, Scapula, and that sort of thing, but took a more or less fleeting glance at all Mexican business spots such as Guadalajara, Monterrey, Veracruz, Puebla, Córdoba, Tampico, using Mexico City as a base. I did manage to take in a number of jai alai games. Give my best to the boys." It will be a pleasure to see Jerry here as one of the 1915 fathers. We expect Bill McEwen in June to see his son graduate.

Wilbur Swain, 90 Evergreen Place, East Orange, N.J., as humorous as ever: "You caught me short of time. Between the office and the local doings, I haven't had time even to look at the income tax blank. As for myself: a little lighter in weight, same number of hairs on my head as on the occasion of our last get-together. Two grandchildren, boy and girl youngest, otherwise so so. Good luck to you and yours."

Phil Alger, 1758 Wendell Avenue, Schenectady 8, N.Y., has a splendid family, and it certainly goes way back: "The multifarious activities of General Electric continue to keep me well occupied. The chief family news I have to offer is that my son John is now a junior at the Institute in Course VI. At present he is on test with the Pittsfield high voltage engineering laboratory of General Electric. Also, I have two extremely nice grandchildren, Timothy Prince and Catherine Prince, aged four and two, who are residents of Marblehead — which was founded by our ancestor, Isaac Allerton of the Mayflower!"

Forest J. Funk, Faulkland Road, Marshallton, Del., has remained a scientist (there are only a few left in the Class). He sends this fine letter: "I have been a researcher for Du Pont since 1919, and I have lived in Wilmington ever since I settled here after World War I. My three sons served in World War II; two of them are M.D.'s, and the baby is a student at Princeton. I keep in touch with the M.I.T.



news of Philadelphia and Wilmington. Present interest and activity is along microbiological and biochemical lines."

Alfred Clarke, care of Bemis Brothers Bag Company, 408 Pine Street, St. Louis 2, Mo.: "I have always admired the way in which you have handled class matters, and particularly the notes for *The Review*. At present, I am located at St. Louis as vice-president of the Bemis Brothers Bag Company in charge of production. This has all been noted in *The Review* heretofore. Recently, I attended a Technology dinner in St. Louis in honor of Professor B. A. Thresher '20. Imagine my surprise, chagrin, and modesty, when I found I was the oldest living alumnus present! This is a very doubtful honor I had not expected to achieve at any M.I.T. meeting for many years, if ever. As Professor Thresher said, however, I was not the baldest alumnus present." Thank you, Al, and in return, I think you've done very well — for M.I.T., 1915, and yourself.

Ted Brown, 200 Main Street, Manchester, Conn., is too modest. To have raised and educated so well three children is a big investment in life. Personally, I feel it will pay big returns to all you fathers. Sorry, Ted, neither Charlie Fry nor Carl Lovell has ever been active in class affairs. Ted says: "Any letter about myself would be prosaic in the extreme. I am plodding along at the same old job (27 years now) as state agent for Connecticut for the Automobile Insurance Company and the Standard Fire Insurance Company, affiliates of the Aetna Life Insurance Company. My older boy, Ted, Jr., was graduated from Cornell (after four years in the Navy), is married, and is now working for his master's degree at the University of Tennessee at Knoxville. The younger boy, Rhod, hopes to finish at Cornell this June. He spent four years in the Army Air Forces. My daughter Janet was graduated from Radcliffe last June. The only accomplishment that I can lay claim to is furnishing the children with an education. Pretty insignificant, I call it. I very seldom meet any of the boys around the state. String Hill in Hartford and DeWitt Ramsay in Bridgeport are seen infrequently. I welcome any excuse however, to play golf in the summer or fall. Hence, if any of the boys are in Connecticut, or passing through, and would like to go around a nice snappy, 18-hole course, I should jump at the chance to take the day off. Do you ever hear from Charlie Fry or Carl Lovell? I am all for a big reunion in 1950. Count me in."

Norman Doane, Permutit Company, 831 East Morehead Street, Charlotte 3, N.C., sends a really friendly letter. That old 1915 spirit really means something, doesn't it? "I am enclosing my Valentine's Day contribution to the class fund. I hope some day I'll be able to drop in at a class reunion or frolic and help consume some of the good cheer the fund helps to provide. I am still dispensing water-treating equipment over an area several times the size of New England. Business is where we find it but largely with textile mills, consulting engineers, and municipalities. M.I.T. men hereabouts are not quite so rare as the proverbial dodo but are seldom in groups as in

the industrially congested eastern part of the United States. Sometimes when I get up to New York, which is usually about once a year, I wish I had a pocket edition of a 1915 class directory with postwar addresses or connections. More power to you, Azel, and here's hoping our paths will cross before many more reunions come and go. My best to you and all the old guard who are carrying on the class tradition and supporting the various alumni activities. Time and space have prevented me so far from being much more than an interested spectator." Bridge Casselman, in care of Ever-sharp, Inc., at 32-36 47th Avenue, Long Island City, N.Y., keeps himself in reserve: "You're doing all right" now, so will send a letter some other time, when class notes are harder to come by." I'll remember him!

Frank Boynton, 163 West State Street, Pasadena, Calif., says nicely: "Kindest regards and many, many cheers for all the work you do for the Class." I take a bow, Frank, and say that it's a pleasure to do this secretarial work for such a swell Class.

Wayne Bradley, 65 Locust Street, Bridgeport, Conn., who loyally journeys from Bridgeport to Boston for class dinners, says: "I am sorry I shall be unable to be with you and the gang at the Boston dinner as I shall be in Detroit on that evening. I am sure I'll be missing something, but no can help. I am enclosing my check for class dues just to prove that I received your February note with your 'special appeal,' which reminds me . . . (story deleted by censors). I hope I'll be able to make it next time. Give my best regards to everybody."

For news of the class politician, Speed Swift, read the *Journal-Transcript* of Franklin, N.H., for April 1: "Former Senator Herbert D. Swift of New London, . . . announced his candidacy for the seat on the Governor's Council now held by Donald Matson of Concord. For many months, friends of Mr. Swift have been urging him to run for the Governor's Council. During the past hundred years or more, New London has served the State of New Hampshire with a Governor and two Senators, but never with a Governor's Councillor. Senator Swift has served six years in the Legislature, four years in the House and two years in the Senate. He served on the Appropriations Committee in the House and on the Finance Committee in the Senate, as well as on many other important committees. He also served on the Interim Committee which introduced New Hampshire's Soil Conservation bill. All his life he has been an ardent Republican, of late years serving as Town Chairman of the New London Republican Club and as Merrimack County Republican Finance Campaign Treasurer.

"Mr. Swift is an engineer, being a graduate of . . . Technology, Class of 1915. Before retiring to New Hampshire, he taught Mechanical Engineering for five years at M.I.T. He is a member of all of the Masonic bodies, of all the Grange bodies, of the Odd Fellows and of the Rotary. Thirty-two years ago he married Maude Calef Fellows, a native of New London, where they have made their home, since Mr. Swift's retirement from teaching at M.I.T. Senator Swift is experienced in

the financial affairs of the many organizations of which he has been or still is treasurer. Among the many interests in which he is particularly active are the New Hampshire Orphans Home, now known as the Daniel Webster Home, the New Hampshire Society for Crippled Children and Handicapped Persons, and the New London Service Organization, in all of which he serves on the Executive Board." All the best to Herb for a landslide vote to win!

We have another class bride! On Friday, March 19, Dorothea Sabin, daughter of Mr. and Mrs. Palmer Savin of 1130 Shenadoah Road, San Marino, Calif., became the bride of Edwin A. Barnes, Jr., of Pasadena in the Church of our Saviour at San Gabriel.

In the midst of the winter's snow and ice, we received an attractive menu from Trinidad from Abe and Haya Hamburg on their long cruise: "Frances and you will sympathize with me when I tell you that I have sent cards or letters to 234 different people in these past weeks. Of course, I did that during very late hours of the night when there were no activities on board ship — or while I wasn't daydreaming in the deck chair. But Haya urged me many times to write you a description of the people on board. The Americans and Canadians (Abe was on the Canadian Pacific *Lady Nelson* out of Boston for the Bahamas) are really fine people. But there are some people on board who would fit the characters in some of the famous stories you and St. Elmo have told at class dinners. You would have had a riot of fun on this ship, besides the good food and the delightful and exciting experiences in the many islands we have visited. Tomorrow we reach British Guiana, and after three days there, we start on the return." I can only say, wistfully, "Oh, for the life of a sailor!"

Now, here's a grand letter from Larry Landers — and thanks Larry, for your constant and generous support of the Class and the Alumni Fund and your kind words for the Secretary. Larry's address is 176 Federal Street, Boston 10. "I received your note asking for help. Far be it from me to leave you stranded under present conditions. The Class, as a whole, owes you a lot for keeping the spirit moving the way you have. The least we can do is send you our annual dues, so here they are. There's little I can tell you about myself that you don't already know. As a matter of fact, you probably know more about me than I wish you did. I am still with the same outfit, Philipp Brothers Chemical, Inc., and next year shall be celebrating my 25th anniversary with them. It has been a lot of hard work, but most interesting. In my travels through the eastern part of the country, I meet a good many M.I.T. men, and it is surprising how few of them have anywhere near the spirit that our Class has. Some of them haven't seen their classmates as far back as the day of their graduation. I read with interest that there was some mention made of tentative plans for our 35th reunion, and you can put my name down as one who will be only too glad to help in any way that the committee may think I can. The Cape is perfectly satisfactory to me, because every reunion we ever had there has been a success, from the point of view of both attend-

ance and good time. At home, I am just getting over a considerable period of illness that Mrs. Landers has been through, but she is on the mend now, and I am thankful for that. If any of the boys in the Class from out of town are stranded at any time in Boston, I will be happy to help them spend an evening; or in New York, where I spend a good deal of my time, they can reach me at Hanover 2-4676, our office at 37 Wall Street. Again, I wish to extend to you my best wishes for continued success in your position as secretary of our Class."

I bow to Ken Kahn's letter from 2269 Canyon Drive, Hollywood 28, Calif.: "We had a nice meeting with Gene Place the other day. He called up first, and I'd have known his voice anywhere—after 33 years, too. You'll probably get his official report, but we were all in accord about doing something, although we do not know just what to do yet. I just wanted to say hello and tell you we all raved about the swell job you are doing and how fortunate we are to have somebody to hold the Class together."

You'll be hearing from Gene Place and his committee on "\$50,000 for '15 in '65." Any 1915 men in or near Boston this summer, be sure to get in touch with me. We can always get a few classmates together for a lunch or dinner. My home telephone is LOnghood 6-3438. Maurice Brandt, Post Office Box 112, Salisbury, N.C., sends this poem, that I use in closing: Azel wants help! / Azel shall have help! / Help for Azel is enclosed. / Everybody help Azel! — AZEL W. MACK, Secretary, 40 St. Paul Street, Brookline 46, Mass.

## 1916

One of the most interesting letters we have recently received comes from Cleveland Loper, who is professor of engineering at the Washburn Municipal University of Topeka. He indicated that we might find one or two items in his letter that would prove of interest to some of the boys, but we are taking the liberty of printing it in full, as follows: "I have received your several notes this spring asking for news for the 1916 class notes, and I marvel at your patience as you have kept prodding away at what must have appeared to you a very barren source. For the life of me, I can't explain why I haven't been courteous enough to answer; so I will not try. I guess I just didn't think I had much to offer in comparison with the grand careers some of the other fellows have carved out for themselves. After graduation in 1916, I brought my family back to Topeka and again took up the teaching of engineering subjects in Washburn College. In February, 1918, I was commissioned captain in the Sanitary Corps of the Army and was sent to Camp Greenleaf, Ga., then to Army Supply base at Norfolk, Va., and finally for nearly two years to Kelly Field, Texas.

"In September, 1920, I came back to Washburn, where I have been plugging along ever since. I have been first of all a teacher, and that part of my work I have always, and still like best. Working with young men who wanted, or thought they wanted, to be engineers, has always been inspiring, whether we were able to send

them on to finish in other engineering schools or whether we felt we had to steer them into other lines of study. I repeatedly remind the other department heads that we send them more students than we send on into the engineering field. But a growing college isn't likely to let a technical man stick to his department. That has been the case here. I served for many years as technical advisor on all sorts of building projects. There is hardly a sidewalk, pavement, sewer line, heat line, water line, memorial, or building, including a field house and stadium, constructed during the 30 years before the war, that my students and I haven't had a hand in staking out and many times actually building. In 1941, our institution became the Washburn Municipal University of Topeka. During the war, we had first a V-5 training group, and followed that in 1943-1944-1945 with a Navy V-12 group. It was a tough job, particularly for the science and technical departments; but, according to Navy officials, we handled it creditably. Right now the university administration is being very kind to me. I have been relieved of all committee work and am handling a rather light load of teaching. I am scheduled to retire on an annuity in October, 1950, but, because of a heart condition, may have to quit sooner.

"I lost my wife in February, 1946, from coronary thrombosis. A nephew, son of Herbert B. Loper, a brigadier general now with MacArthur in Japan, is staying with me. My two sons are doing very well in their chosen careers. Robert Cleveland, 35, with wife and two little daughters is living at Joplin, Mo. He is an I.C.S. representative for a large district in that locality. George Bernard, 31, with wife, son, and twin daughters six months old, is living at Dallas, Texas. He is an electrical engineer with the Magnolia Petroleum Company. He has a number of useful inventions to his credit and apparently stands high among the young research men of the company."

We have a pleasant few words from Leonard Besly, who indicated that our "please" note could not be denied but that he really has no news to send. Leonard says that he has retired to all intents and purposes and is living quietly with his mother, in East Orange, N.J., still a bachelor with no prospect of changing that blissful status. — Congratulations to Shatswell Ober, who was recently promoted to full professorship of Aeronautical Engineering. Looking at his picture in the May issue of *The Review*, we must say that he doesn't show the toll of years as do some people we know.

Lew Pratt tells us that in July he is moving permanently to Cape Cod. Lucky dog! He writes: "Your letter coincides with quite a change in my business affairs and living conditions. I hope that my change of address may tempt some '16 men to drop in on me. In any event, I shan't be so far away from future reunions. For the past seven years, I have lived in Mamaroneck and Larchmont. My business address has been on East 42d Street in New York City, where I have been vice-president of the Rudel Machinery Company. We distribute machine tools throughout New England, eastern New York, and New Jersey north of Trenton. My territory covered the Hud-

son River Valley, Pittsfield, Mass., and Bridgeport, Conn.

"Nineteen years ago, I purchased an old Cape Cod home on Davisville Road, East Falmouth, with the intention of occupying it the year round when conditions appeared favorable. In the middle of May, Samuel H. Wright of Falmouth and I formally opened the Nobska Furniture Company, Inc., in Falmouth, where we are displaying furniture by Conant Ball, W. F. Whitney, the Heywood-Wakefield Company, and so forth. We are concentrating on Colonial furniture and accessories, in maple, birch, brass, copper, and other materials, all chosen to give satisfactory service in the Cape Cod climate and to fit into the Cape Cod type of home. On or about July 1, we shall move from here to East Falmouth, since by then I shall have resigned from Rudel Machinery and will pick up as treasurer of Nobska. Incidentally, Nobska is the light-house at Woods Hole and has become our trade-mark.

"My family now consists of my wife, Christine, four sons, Ted, Dick, Bob, and John, my aunt and sister-in-law. We now have two grandsons by Ted, who is with Gould and Eberhardt living in East Orange, and one granddaughter, Judy, by Dick and Peggy living in Carle Place, Long Island. Bob is being graduated from Middlebury College in June. John is still in grammar school here and will, of course, enter the Falmouth school next fall. This turned into quite a lengthy letter. Please let it be known that I shall be very glad to welcome any classmates who may be in the vicinity of East Falmouth this summer or in the future."

We have heard from Harold H. Mitchell, M.D., formerly located in Astoria, Long Island, and now at his new address in Laytonsville, Md. (population 127). His office is in the Watkins Building, Rockville, Md., and his new job is being director of school health for the public schools of Montgomery County, Md., the northwest suburb of Washington, D.C., and neighboring rural areas. He writes: "After more than 20 years in New York City, I am back to the grass roots again where I got my start, and so my advice to my children is: get out of New York. It is interesting and a relief now to drive to work through rolling meadows and forests instead of the crowded canyons of New York. After all these years, Harvard has approved of the joint degree from Harvard-M.I.T. in 1916 and gives an M.P.H. because Tech has closed the public health course."

George Sutherland writes that he is still with the Consolidated Edison Company of New York, as manager of the substation operation department. He goes on to say: "I am having fun fixing up a 1721 farmhouse in Woodbury, Conn., for retirement in a few years. Eight and a half acres of land will provide two five-year plans of nonindustrial development. I gave away two daughters in 1947. There's qualifying as an expert—giver-away, grade 1. Jean married F. Harwood Bogardus on May 31 and is living in Canastota, N.Y. Ann, the younger daughter, married Roger Young of Smithtown, Long Island, on October 17 and is living in Carle Place, Long Island.

**An unusually fine professional recording of M.I.T. songs is now available at \$2.00 a record, including postage charges within the U.S.—Mail request and check to the "Alumni Association of the M.I.T."**



All four young people were graduated from St. Lawrence University. The parents recovered nicely."

We were, of course, very glad to hear from Rusty Lowe, who writes that his present affiliation is with the Cities Service Oil Company's specialties division in Hillside, N.J.; title, director of specialties. And here is something for the records, he has 65 patents granted or pending in metallurgy, ceramics, solvents, lubricants, and protective coatings. His letter goes on to say: "My special interests at this time concern synthetic lubricants and refractories for ram-jet engines. We celebrated our Silver Wedding Anniversary last November. We have no children, but one cannot have everything. My hobbies are still hunting and fishing. I have been quite active in the M.I.T. Club of Northern New Jersey, holding successively the positions of chairman of the entertainment committee, secretary, and vice-president-elect. I am also a district leader for various campaigns in the behalf of Union College, where I took my degree in electrical engineering. During World War II, this division received two Navy citations and the Army and Navy E award with four stars for our work on lubricants, hydrogen detectors, and rate-of-dive indicators for the submarine service, and immersion oil heaters for carrier-based planes."

And Allen Pettee has been busy climbing the ladder during the last year or two. He writes as follows: "Same wife, same children. My daughter Barbara is married and lives in Washington. Dan, the older boy, is finishing his freshman year at Yale. Jim, the younger, is a sophomore at Colgate. For the last two years, I have been chief engineer of the General Cable Corporation, and I have just taken on the additional duties of director of research. A little imagination should thus tell you what I shall be doing for the next five years, barring unforeseen circumstances."

Norm Vile writes from Berlin (Berlin, Conn., that is), on his own letterhead, which reads "Special Devices, Inc., Makers of Special Devices to Meet Special Requirements of Industry and Science." Here is his response to our request for a little news: "In 1943, I decided I wanted to work for myself and went into partnership forming the Special Devices Company, which has since been incorporated. We began to manufacture and sell the hydraulic feed regulator I invented. From that we got into war work, and our principal business is the design, development, and construction of special machines and mechanical devices. Our work is very interesting and has a great deal of variety. My boy is married and going to Wentworth Institute, and the girl expects to go to Vermont State College this year. Outside of business, my principal interest is a motor boat, aptly named *So What*, in which I started with Duke Wellington to Cape Cod for the 30th reunion. We lost a rudder off Newport Harbor and finished the trip by car. Occasionally, I hear from Arvin Page, and I saw J. D. Robertson about a year ago when we did a small job for his company. Our building is one block from the railroad station in Berlin, and I hope any of my friends in this vicinity will stop in and see me."

From Hartford, we have a nice long letter from Francis Stern, who has reached that comfortable point where he can plan and enjoy long spans of leisure. He writes: "You've done a swell job, in keeping the columns well filled this year, and I look forward to getting *The Review* and reading of the doings of our classmates. I note that you now have me 'on the spot,' and if it's of any general interest, here goes: During the past five years, I've been carrying on as before as president of Stern and Company, Inc., one of the oldest specialty appliance distributors in the country. We started back in 1920, and during these many years we have never sold any electrical supplies but have consistently stayed in the home appliance field and gone through a number of various merchandising stages. Many years ago, we believed that distribution in our field could be accomplished most successfully over a very large area, and we had branches in Portland, Me., Providence, R.I., Albany, N.Y., Burlington, Vt., Manchester, N.H., as well as Boston and Springfield, Mass., and Hartford; but we have learned that economical, low-cost distribution must be confined to a rather small territory. Therefore, for the past 15 years, our activities have been exclusively in the state of Connecticut, western Massachusetts, and the state of Vermont. In addition to electrical appliances, we have been one of the pioneer distributors in the country of Columbia phonograph records. Our organization is slightly under the hundred mark all told and runs smoothly enough so that in the last year, Mrs. Stern and I left here in June and didn't come back until October. Call it a Sabbatical year if you like, but I hope it will be one I can repeat frequently in the future, as I'm getting to the point where I feel that this organization needs less of my time than before and my fishing more."

"After a month in Glacier National Park, we went up through Banff to Lake Louise, to Jasper, and into the Canadian Rockies, then across country to Seattle, up to Vancouver and Victoria, back to Seattle, across Oregon, and down through California, landing ultimately in Los Angeles, after visiting the Yosemite and Carmel and Santa Barbara. For three months in the northwest, we fished, and when I say fished, you can spell it with a capital letter. We are both fly fishermen, and our luck held. The various rivers of Oregon are superb. There we found steelhead fishing, although the rest of our trip was devoted to catching trout in the lakes and in a few of the streams. If you care for fishing, I can make your mouth water, for we caught everything from cutthroats and Dolly Vardens through the various species of speckled and rainbows to the Montana blackspot, a sort of hybrid fish, which, once hooked, believes it can live out of water as well as in and proceeds to demonstrate it by dancing on top of the water on its tail before you finally bring him to net."

"In Lake Dorothy, some 40 miles north of Jasper, up in the Canadian Northwest, I got my greatest thrill, for after nearly 12 hours of fruitless fishing in what is reputedly one of the finest pieces of water in the country, I hooked myself a single fish, but that single fish was a rainbow weighing

eight pounds, five-and-a-half ounces. When you've landed that, after half an hour of almost darkness, on a three-and-a-half-ounce rod with a six-pound test leader, you really are ready either for three or four snorters or for a long rest cure. The Oregon rivers are famous, as you know, for steelheads. There are three of these rivers, the Klamath, the Umpqua, and the Rogue, and I prefer the Rogue, and fishing some four miles above its mouth at Wedderburn proved to be all that we expected. The largest salmon caught there was only 25 pounds, but three-, four-, five-, six-, and even eight-pound steelheads are about as exciting a catch as a man ever hopes to have."

"As to other hobbies besides fishing, I still go along as a stamp collector, and my collection is now getting to be rather nice. I've specialized some 30 years on one local stamp, known as the 'Hartford Local,' and if any of our classmates are stamp collectors, they can realize this is a long time to collect a single type of a stamp, altho' I have many copies. I've been trying to finish a book, which needs a little more historic background before I am satisfied to let it go to press, on this particular stamp and the service rendered by the company which issued it. In addition to that, I have been acquiring a few of the United States rarities, so that when I am not fishing, I have more than enough to do trying to keep abreast of the activities in the stamp world, which are many and interesting."

"As to children, I still have only the one daughter, who is married and is now living out in Los Angeles, after having been in Chicago and Washington for the first five years of her married life. My little grandson is three years old and is to be joined late in October or early in November by a new brother or sister we hope, and I can see no reason why that event should not take me to the West Coast and give me another opportunity to get back onto the Rogue River, for the fall run of fish, which is famous. I belong to a little fishing club down in Pennsylvania where we own some six miles of the Brodheads Creek and the Paradise, two of the finest trout streams in the East, and I generally get down Friday and spend the week end, but this week I am leaving two days early, as this is the time of year when the fishing is at its height. You asked for it, and if out of the welter of words and absence of ideas you can find something to write about, you're welcome to it. In closing, just so you don't think I'm a complete loafer, may I say that I have been fairly active in community affairs, am presently a director of our chamber of commerce, director of the Better Business Bureau, on the executive board and board of directors of our local welfare organization, a member of the board of governors, and chairman of the legislative committee of the National Electrical Wholesalers Association. I still belong to the local M.I.T. Club here in Hartford, and although I am a member of a golf club, haven't touched a club since our last reunion."

A note from Charlie Cellarius under a Cincinnati date line informs us that he has been practicing architecture in said city for 25 years, concentrating chiefly on school and university building. He is treasurer of

the American Institute of Architects. A line from Phil Brooks says, "I worked on submarine parts for 10 years at Portsmouth. At present, I'm a 'chicken chambermaid.'" Sounds interesting.

From Peiping, China, where he is city missionary, American Board, Raymond Blakney writes of his varied life during the past years. In addition to being an Army chaplain in both wars, as noted in an earlier issue of the class notes (March, 1947), he has been a professor of mathematical physics at Fukien Christian University, Foochow, China, and has received his D.D. from Williams College, 1941. Of his two sons, one is now a research physicist at Williams and the other, a senior at the same institution, holds the New England 175-pound wrestling title. His daughter, an ex-cadet nurse, is now married to a Navy surgeon.

Joseph Brodil has been in Los Angeles since 1943 and seems to be leading the life of ease with chess, books, crossword puzzles, radio, and a box garden on his sun porch with which to while away the time. He adds that he is still a confirmed bachelor. — Izzy Richmond sends us a copy of an entry concerning his comings and goings as noted in "Who's Who in New England." From this we learn that in 1933 he married Anne Bovarnick and has one daughter, Jean. He returned to M.I.T. as an instructor in architecture for three years and in 1925 established his own practice. He served in the Naval Air Service during World War I and was in the Naval Reserve for three years during the late conflict. After the end of that one, he formed the firm of Isidor Richmond and Carney Goldberg, architects and engineers, in Boston.

Frank Darlington jots us a line or two, in which he relates the following details: "After five years of flat leaf automobile designing and manufacturing, I resigned, got married, and became a statistician in the bond department of a bank. After seven years, during which I progressed to the position of assistant trust officer, I retired. Winters in Shields, Pa., and summers on Cape Cod have provided a very happy existence. Two daughters, a son, and a son-in-law have furnished more than the usual happinesses and less than the usual cares. My hobby is collecting Maine harbors, of which I now have 48, gathered on eight cruises in five years before the war and two years since my schooner was returned to me after eighteen months of patrol service (I was not aboard)."

Response to our recent requests for news has been most gratifying of late. But don't wait to be asked. Drop us a line any time, about anything. It all makes news. — RALPH A. FLETCHER, Secretary, Post Office Box 71, West Chelmsford, Mass. HAROLD F. DODGE, Assistant Secretary, Bell Telephone Laboratories, 463 West Street, New York 14, N.Y.

## 1917

We may assume that Edward P. Warner will be in the news frequently in his capacity of president of the Council of the International Civil Aviation Organization in Montreal, Canada, an agency of the United Nations. A release from the American Standards Association last October announced

that Dr. Warner was to be the principal speaker at the annual luncheon of the Association. Dr. Warner, before assuming his present position with the I.C.A.O., had served in important aviation regulatory and advisory capacities in this country under Presidents Coolidge, Hoover, Roosevelt, and Truman.

Ted Bernard's efforts toward obtaining letters have been more successful than some of our other attempts in the past. Here is one from Edwin J. Grayson, a major, written from Army Headquarters in the Philippines-Ryukyus Command: "In the hope of allaying some of your suffering in the attempt to secure news of members of the Class of 1917 for The Review, I submit a little personal information, part of which is ancient history, as several years have elapsed since I have furnished The Review with any data. Shortly after Pearl Harbor, it seemed desirable to take a furlough from the procurement division — now the Bureau of Federal Supply — of the Treasury Department for the purpose of entering the armed forces. Upon accepting a commission in the Ordnance Department of the Army, I was assigned to the Ammunition Division and spent the war years in work connected with the loading of bombs and artillery ammunition. In 1946, command of the Nebraska Ordnance Plant in Wahoo, Neb., was given me. This installation had loaded the so-called earthquake bombs and other large bombs and was converted to a program of graining ammonium nitrate for fertilizer use in occupied countries. The logic of supplying a former enemy nation with ammonium nitrate is apparent from the fact that if we ship a ton of fertilizer, the user can raise fully six tons of grain and to that extent relieve the strain on American economy. Unfortunately, the disaster at Texas City in the spring of 1947 involved ammonium nitrate, which is ordinarily non-explosive, prepared at Nebraska and other Ordnance plants.

"The Military Personnel Office asserted that it would not send an officer of my age overseas, and under no circumstances to the tropics. You guessed it: I have been in the Philippines for a year and have not found the climate unbearable under postwar conditions. Originally ordered to Japan, I remained there less than a month and just missed out on the reorganization of the M.I.T. Association in Tokyo. After transfer to Guam and two months' duty there, orders sent me to Manila on temporary duty representing the Marianas-Bonins Command (Guam) in the acquisition of excess equipment and supplies, of which more than 10,000,000 tons had been accumulated in anticipation of the invasion of Japan. So although this is my 13th month of 'temporary' duty, I have been located at my 'permanent' station only two months. My wife arrived in Manila in February, and now, three months after she sailed from San Francisco, our household goods are leaving that port. The government has provided us with a comfortable sawali house. Sawali is woven bamboo strips, and all structures are built for maximum ventilation. Roofs and especially walls are constructed in a manner one does not see in the States. There are doubtless many Tech men in Manila con-

nected either with the Philippines-Ryukyus Command or otherwise. But without an organization and with my almost complete detachment from professional work, there is little opportunity of ascertaining who they are. . . . Membership in two classes, 1916 and 1917, has not served to keep me in touch. My connection with M.I.T. is maintained through the issues of The Review, which are broadly informative and arrive with reasonable regularity."

Since the second dinner celebrating the launching of the new shell, the secretariat is not too certain whether the celebration was in fact that of the donation of a shell by Neal Tourtellotte, or a SoundScriber by Tom Ryan, New England distributor. Men in the vicinity of Boston were invited to the launching, and the immersion was recognized with fitting pomp and conviviality. SoundScriber (Tom Ryan, New England distributor) records were sent to Seattle, and SoundScriber (Tom Ryan, New England distributor) records were filled out by Tourtellotte, shell donor, and returned to Boston, where Tom Ryan (New England distributor, SoundScriber) gave a dinner to the launchees, where SoundScriber (Tom Ryan, distributor) records of Tom Ryan (SoundScriber distributor) were given over a loud-speaker. It was a gay series of events.

At the launching, Lucius Tuttle Hill claimed to be one of the oldest of Technology's former crew men — and now we have word from Rudy Beaver taking issue with the aforesaid Hill as follows: "When we were freshmen, we had a crew of which I was the stroke. But it was only a four. Francis Bill of Hartford was in the crew. That certainly makes me the oldest oarsman of the Class, because Lush Hill was a junior before he was in the crew. I should like to know who the other members of our freshman crew were. . . . The coach was a Mr. Stevens. . . . We raced the sophs for a close finish to Harvard Bridge. The boat-house then belonged to the Boston Athletic Association, and they loaned us the shells."

Harrison Prescott Eddy, Jr., spent three weeks in Florida in March and April. Bill has been extremely busy with the sizable projects handled by his organization and has had more than his share of travel. Colonel Claud Roberts reported that he saw Bill at one of the far distant Army bases, supervising the assembly of equipment manufactured for the engineers.

Among the protests against statements before the Senate of the president of the American Federation of Labor Brotherhood of Sleeping Car Porters was that of Anselmo Krigger, reported in the Boston Herald for April 2: "No person such as A. Philip Randolph, president of the A.F.L. Brotherhood of Sleeping Car Porters, can get colored people to be disloyal to the United States of America," a prominent Boston civil engineer told The Herald. . . . Anselmo Krigger, first Negro to graduate from . . . Technology as a civil engineer, and a member of the Boston Society of Civil Engineers for 25 years, made the statement in discussing Randolph's assertion to a Senate committee in Washington . . . that millions of Negroes would refuse to be drafted into a 'Jim Crow' army. 'When the day comes that colored people must die for justice and

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equality in the United States, count me right at the top,' Krigger said. 'But the day has not yet come for parasites like Randolph to suggest that colored people will become treasonable at his or their request.'"

We were delighted to receive word from Peso Moody. He writes: "In April, 1947, I went with the Natural Gas Pipeline Company of America, which is the concern that transports natural gas from Texas, Oklahoma, and Kansas to Chicago. They were beginning a big expansion program, and all last year I was in charge of their work at Compressor Station No. 3, near Dodge City, Kansas, which was being doubled in size. In March of this year, I came down to Hooker, Okla., and am building a complete new compressor station which will use gas from the famous Hugatan, Kansas, gas field. I like my work very much, as I am more or less on my own and most of the time is spent out of doors. I shall expect to be here until fall, and then I don't know where I shall go. In April, 1947, I was married to Margaret Lanhead, a girl whom I have known most of my life, and whose two daughters were friends of my child. We have managed to get a fairly decent house down here and are nicely settled. I fully planned to go to the 30th reunion last fall, but I couldn't get away, as the construction work was then in full swing. I am hoping to go East this fall for two weeks or so, and if I make it, I'll surely drop in and see you. We often recall, Ray, your visit to Colorado a long time ago and your spending an evening up at our cabin. Please give my regards to any of the boys you may see, and I hope to see you in a few months." — **RAYMOND STEVENS, Secretary, 30 Memorial Drive, Cambridge 42, Mass.** **FREDERICK BERNARD, Assistant Secretary, 24 Federal Street, Boston, Mass.**

### 1918

Well, the trek back to Washington has begun already. Frank H. Copeland left his home in Buffalo this spring and bought a house in Silver Springs, Md., in order to accept a position working as weight control engineer at the Washington, D.C., office of the Fairchild Engine and Airplane Corporation. The renewed international unpleasantness can start anytime after January, 1953, say the United States military experts. Such being the case, the remainder of this month's notes shall be concerned with something beautiful and constructive.

It rained in Cambridge on Sunday afternoon, May 16, but there was a dignified and beautiful service in Walker in dedication of the organ given by the Class of 1918. The occasion opened with our own Harry Upson Camp at the organ console, playing Bach's "Air for the G String." This was followed by the congregation and the Glee Club singing the old hymn, "Oh God, our help in ages past, our hope for years to come," after which Dean Baker read a selection from the Psalms beginning, "Make a joyful noise unto the Lord all ye lands." Harry Camp then played the little "Sonatina" from Bach's cantata, *God's Time is Best*. The Glee Club (which in future may profit from the use of the organ more than any other organization), under the direction of Professor Liepmann, sang Allegri's "Miserere"

without accompaniment. Once more the organ raised its electronic voice to Bach's "Prelude" based on Luther's great hymn, "A Mighty Fortress is Our God," upon the completion of which both Glee Club and organ joined in Ryder's arrangement of Luther's hymn.

Following this came the presentation by the Class President, F. Alexander Magoun, who said: "We have gathered together on this Sabbath afternoon for a purpose unique in the entire history of the Massachusetts Institute of Technology: the dedication of an electronic organ, given in gratitude by the Class of 1918 and designed by two Alumni—Edward M. Jones'44 and Raymond P. Mork'43. The 49 contributions which made this gift possible represent a wide range of participation. There is the brave dollar, standing courageously alone, given by a man whose dim, trapped world has not dulled the strength of his determination to be part of this. There are the checks sent by those classmates to whom the passage of the years has brought both fame and fortune. There is the money order sent from Shanghai by Z. T. Wong, which outshines both in distance and magnitude the contribution of anyone else. But for the present grossly inflated rate of exchange, his draft would have been worth about 200,000 American dollars. And there is D. H. Montgomery's gift, made in memory of a son killed in the stupid insanity of the late World War. If Montgomery is here today, I hope he has found in this dedicatory service a little candlelight in our immensity of darkness.

"Although an unusual thing, it is an altogether fitting and proper thing for us to give this organ to Technology, for it offers an area of development which cannot be omitted in the making of a great scientist. The knowledge of the physicist without the art and the imagination of the physicist produces only a competent laboratory technician; not a man of science capable of originating some new generality like Galileo founding the science of dynamics the while he played a church organ, or like Albert Einstein, violin in hand, realizing that time is merely a form of perception, not 'an absolute, inexorable flow streaming from the infinite past to the infinite future.'

"So much in the classrooms of Technology is narrow and exact and as detailed as a photograph of the multitudinous rivets in the joints of a cantilever bridge. So little in the classrooms of Technology parallels the few swift strokes by which an artist records the essential features of a face, or the chiseled sentence in which the historian points out the one outstanding characteristic of a great civilization.

"Mathematics is the most exact of all the sciences, but without the art of the mathematician it is no more than slavish counting. Music is as exact as any mathematics, and it is nothing unless it be free from the narrow bondage of tight and unimaginative literalism. You cannot say of the Little Sonatina from *God's Time is Best*, 'Ah, that chord represents omniscient wisdom, the dissonance here is indicative of humanity's chaotic state of mind, and the few notes continually repeated on the pedal board are the dead weight of the pathetic effort with

which man has ignored the results of living in armed neutrality.' No, one can only say that the Sonatina itself expresses the tragedy of our stupidity; the deep yearning in a time of terror for some better way of life; the healing and the hope of a belief in some ultimate purpose far beyond our understanding; the realization of so many beautiful things, so many gentle deeds; the sure feeling that if we are patient the day will come when power over the atom becomes our salvation and not our doom.

"Music is not restrictive. It has no stultifying bondage. It is not literal in detail. And it is the only thing I can think of which cannot be made indecent and unclean. No man plots evil with music in his heart. No one can sing and also say, 'I wish that I were dead.' Even in the darkest spot on earth some song is to be found. I do not know whether your fingers clench and your jaw tightens when you think about war, or whether you cover your ears with your hands when you hear what has happened to Europe, or what may yet happen to us. But I do know that we have no need to be sickened by our own misdeeds when we sing, 'Oh God, our help in ages past' or when we come alive to the cadenzas of spiritual strength in Martin Luther's great hymn. There is no treachery, no hypocrisy, no dishonesty, no dirty politics in the singing heart.

"It seems to me particularly important that young scientists should work and grow in an atmosphere of great music. Our institution has an all too well-deserved reputation for teaching men to work. But hard work alone is not enough. There must also be time to reflect; there must be the development of rare insight, and no blinding bias. There must be the capacity to throw off the details and to feel through to the essentials as all music does. There can be destructive adhesions in the unrelieved detail of too much imitative problem solving. By some magic, the spiritual cleansing of great music may even remind us that the scientists have become one of the most dangerous groups of men on earth, devising diabolical instruments of destruction which, in the end, may bring about so blind a rage among the common people as to destroy the possibility of research for a hundred years. The scientists of the past have said, 'Our task is only to discover new truth. We have no responsibility for the formulation of moral values.' Perhaps this organ will help to awaken more among the younger of them to the fact that moral values are a part of any truth; that the same God who made the laws of physics and of chemistry and of electrical engineering made the laws that hold a family together in love, or nations in a relationship of friendliness. True science and true morality are never inconsistent and can never rightfully be separated. When we fail to give attention to the whole truth, we pay for that failure with suffering.

"Surely part of the truth about men is their capacity to create and to enjoy beauty. Those of us who are giving this organ, do so in the expectation of enriching the cultural atmosphere of Technology. Already students have knocked on my office door to inquire whether they will have the opportunity of playing the instrument. The an-

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swer is of course 'yes,' within the limits of a demonstrated competence and a courteous regard for the rights of others. Perhaps some undergraduate will use the organ to enliven the tedium of clanking dishes during the dinner hour in Walker. Perhaps some member of the staff will demonstrate an intellectual incandescence which includes a mastery of the diapason and the pedal board. Perhaps the organ can be moved to the Rotunda in Building 7 for our Christmas Carols. Surely there will be many times when the Glee Club will raise their voices to its accompaniment. Imagine how it will contribute to the All Tech Sing. On great occasions, like baccalaureate, we feel that it will add dignity and power to the service. Already it has become an instrument full of half-spoken promises.

"And so, by the responsibility vested in me as president of the Class of 1918, expressing for my classmates the hope that this, our gift, may contribute to the spiritual values of technological achievement in an unspiritual time, it is now my privilege to symbolize the transfer from us to the Massachusetts Institute of Technology of title to this organ by presenting to Dr. Compton the key which unlocks the console. May student generations to come learn something of the difference between a mere technician and a creative thinker, something of the conditions in which beauty and decency can survive which can be heard by those who listen to great music with their hearts as well as with their minds."

Dr. Compton responded by expressing gratitude for so beautiful an addition to the facilities of the Institute. He expressed assurance that the organ will fulfill the purposes for which it was given and then recounted a short history of such instruments. Although the electron was discovered in the 1890's at about the time the members of the Class of 1918 were being born, so that 1918 has spanned the entire period of development from electron to electronic organ, nevertheless the organ is probably the oldest of all musical instruments. The story is that the God Pan invented it while chasing a nymph who eluded him by hiding among the reeds. So Pan made a pipe from a reed and played upon it in order to entice the nymph out of hiding. As a supplement to the academic life of the students, giving inner satisfaction, helping to develop ideals, Dr. Compton said he felt sure the organ would contribute much. "In this spirit I am happy to accept for Technology this gift from the Class of 1918."

Once again Harry Camp took over the program, playing an "Andante Cantabile" by Widor, and a "Gavotte" by Gluck. The service was then closed by everyone singing "Now thank we all our God, with heart and hands and voices" before Dean Baker pronounced the benediction and Harry Camp played the Widor "Toccata" as a postlude. It was a beautiful service.

A week later the Class President received the following typically cordial letter from Dr. Compton: "On the first day of my return to the office after the May 16th presentation of the electronic organ by the Class of 1918, I wish again to thank you and your associates on behalf of the Institute for this gift, which is so appropriate

and so timely. You have told me of some of the vicissitudes which your class has undergone in this project because of restrictions on delivery during the war, and subsequent price changes and taxation. These vicissitudes, which have been successfully surmounted, give added significance to the gift from a sentimental point of view. Nevertheless, from the practical point of view the electronic organ will fill a real gap and long-felt want in our facilities for providing some of the 'better things' in our M.I.T. environment. I hope, therefore, that you will find an opportunity, as president of the Class of 1918, to let those who have contributed to this project know that it was graciously presented, gratefully received, and is being put to good use." This is a letter we may well be proud of as the climax of an effort begun seven years ago. — GRETCHEN A. PALMER, Secretary, The Thomas School, The Wilson Road, Rowayton, Conn.

### 1919

Elliot D. May writes as follows: "I am chief engineer at Baxter D. Whitney and Son, Inc., where I have been ever since I was graduated. I have a daughter, Eleanor, aged 13, and a son, Davis, aged 11 years." — Ed Scofield says, "Aside from the weather, the politicians, the dictators, and the reformers, life is gay and fruitful." — Jim Strobbridge declares there is nothing new with him and that he is still at 250 Park Avenue, New York City, selling the best lithography in the country. — Karl Nutter of the Vita Needle Company dropped a card to say hello.

Rogers B. Johnson writes: "I am New England institutional manager for the United States Hoffman Machinery Corporation, which is a high-class way of saying I am laying out and selling laundry machinery to hospitals and other institutions. My son is a junior at Harvard and manager of the swimming team." — We note that William F. Bennett, Commander, U.S.N.R., has recently been appointed training officer on the staff of Organized Surface Brigade 1-1, United States Naval Reserve. — Mr. and Mrs. Donald Moffat announce the marriage of their daughter Harriet to Paul Cushing Sheeline, son of Paul D. Sheeline of our Class. The ceremony took place on May 23.

L. R. Sorenson says: "I should like very much to make the 30th reunion as I missed the 25th. I am still here at the Newport News Shipbuilding and Dry Dock Company. It will be 30 years this September since we left the old Institute. I am cost engineer for our company and busy enough trying to provide work for 12,000 men."

We have received news from Alan G. Richards, and we quote: "When I was in Chicago a few weeks ago, I ran into two classmates. I met Dick Cashin in the Palmer House and had a most enjoyable talk with him. He told me that the M.I.T. Club of Chicago was having a dinner at the Hotel Congress on Thursday, April 22, and asked me to come to it. Unfortunately, that was the night of the rubber dinner of the American Chemical Society which I could not very well miss. At the cocktail party preceding the rubber dinner, I ran into Dutch Seifert. Dutch was in good spirits

and seemed to be looking forward to having a rousing good time at the dinner. Incidentally, Dick Cashin told me that he had recently purchased an old brewery in Calumet City, which he had converted into his manufacturing plant. Since Dutch's place of business is also in Calumet City, these two boys ought to see each other quite often and should be able to keep you informed of the activities of the '19 men in the Chicago district."

We are sorry to hear of the death of John L. Karmine in December, 1943. — Lewis J. Atwood, Jr.'s address is 3 Arlington Street, Newburyport, Mass. William H. Bassett, Jr., a lieutenant colonel, has moved from Alabama to 5 M Popham Hall, Scarsdale, N.Y. George A. Irwin's address is now Cornish, N.H., instead of Cornish Flat, N.H. Jacob Lichter's new address is Southern Fireproofing, Federal Bank Building, Cincinnati 2, Ohio. Herbert C. Merrill has moved from Louisiana to 17 Battery Place, New York 4, N.Y. Carley H. Paulsen has moved from Hingham, Mass., to the Office of the Military Government of the United States, Bremen, A.P.O. 751, in care of the Postmaster, New York, N.Y. The new address of James W. Reis, Jr., is 2230 El Molino Place, San Marino, Calif. — EUGENE R. SMOLEY, Secretary, The Lummus Company, 420 Lexington Avenue, New York 17, N.Y. ALAN G. RICHARDS, Assistant Secretary, Dewey and Almy Chemical Company, 62 Whittemore Avenue, Cambridge 40, Mass.

### 1920

Since this is written before Alumni Day, I can't give any report on our attendance at this event, but I am hoping we shall make as good a showing as we have in recent years.

Flossie Fogler Buckland wrote to inquire whether there would be any sort of reunion in June. If more of you had shown similar interest, perhaps we could have arranged something. Flossie says she is back in the game and has rejoined the American Institute of Electrical Engineers. She was to present a paper at the meeting of the American Society of Mechanical Engineers in Milwaukee, on June 3, on "Thermal Contact Resistance of Laminated and Machined Joints." Your Secretary is personally not familiar with this kind of joint.

Dr. Carl Leander has left Lexington and is now in Drexel Hill, Pa., at 901 Turner Avenue. Captain Joe McGuigan has left Tacoma, Wash., and is living in Arlington, Va., at 4637B South 36th Street. Irwin Moore is with the New England Electric System in Boston. Bill Shepard is with the Wright and Lawrence Laboratories, Inc., Chicago. Harold Smiddy is with the executive department of General Electric Company's New York office. Robert T. Knapp is professor of hydraulics and director of the hydrodynamics laboratory at the California Institute of Technology in Pasadena.

Many of our classmates will remember that old trap drummer Ed Shultz'19. I had a very pleasant visit with Ed in Hartford last week. He is advertising director of the Pratt and Whitney division of the Niles, Bement, Pond Company in West Hartford, and is doing a first-rate job.

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I do hope some of you will find release from your arduous duties this summer long enough to drop in or drop me a line. — HAROLD BUGBEE, Secretary, 7 Dartmouth Street, Winchester, Mass.

## 1921

Alumni Day, some three weeks hence at this writing, gives in anticipation the same feeling of satisfaction that its realization will have produced as you are reminded of it in this postlude to another year's record of class activities. This last issue of the current volume of *The Review* can only recall the memory of events of the day, from the "Logistics of Peace" to the Chick Kane stein which by now has joined its predecessors on display in the rumpus room. The written record must await the resumption of *The Review* schedule in the fall.

Irv Jakobson and Ed Farrand ran a dead heat for first reportorial honors in the month's secretarial committee race. Ed was planning a visit to Cambridge for Dr. Compton's party for Honorary Secretaries and the Alumni Day program and wishing that dynamic Jack Barriger would extend a line of his Monon from Chicago to Boston to expedite service for the occasion. Jake enclosed a clipping showing that three of the four newly-elected officers of the New York section of the Society of Naval Architects and Marine Engineers are from Technology. Arthur R. Gatewood, who is chief engineer surveyor of the American Bureau of Shipping, has been named vice-chairman of the section, Warner Lumbard '25 is secretary-treasurer, and Hugh W. MacDonald '33 is a member of the executive committee. Jake adds: "We recently had a visit from Phil Clark and his wife at our home in Glen Cove. Phil is chief naval architect with the Transportation Board of the United States Army and is engaged in research and development work on floating equipment used in the Transportation Corps."

On the subject of Jack Barriger, we have just received from him a copy of "Railroad Operating Methods and Procedures," a report of the subcommittee on operating methods and procedures of the Association of American Railroads, of which Jack is a member. The report discusses improvements in materials, equipment, and methods of those railroad departments which operate the service and maintain fixed facilities and rolling stock. It describes practices that came out of the war and enabled the railroads to handle the greatest volume of traffic in their history with fewer cars and locomotives than they had during World War I and at the same time maintain such high standards of performance as to merit the acclaim of the government and the armed forces.

A most welcome letter from Ed Chilcott, President of the Technical Products Company of Los Angeles, proffers aid in locating a correspondent for southern California, which has been sadly neglected in these columns. More recent news of H. duPont Baldwin corrects the address given in the May Review. Baldy is with the Personal Music Studio, Inc., 2117 North Charles Street, Baltimore 18, Md.

Trev Peirce, of the Peirce-Phelps organization of Philadelphia, came in for a new

"first" via the local press and the April 15th issue of *Electrical Merchandising* for holding a sales meeting for dealers in the territory entirely by television. The line of home appliances which Peirce-Phelps distributes was televised in operation after Trev opened the show with an introduction to the sales campaign. Illustrations show Trev on the television screens at several of the meetings which electrical stores held on their own premises for dealers and salesmen.

The ex-brass department has been augmented by the admission of Frank Blewer, formerly a major. Frank is back in New York, where he makes his home at 17 East 89th Street. Bruce F. Rogers lives in Rye, N.Y. Robert D. Moore writes that he is still in the Wilmington division of Du Pont. Holland L. Robb, a colonel in the Corps of Engineers, is in charge of the Marion Engineer District, Marion, Ohio. Walt Church is back in Portland, Ore., after a stay in San Francisco, where he took part in a meeting of the United Nations Educational, Scientific and Cultural Organization.

Sumner Hayward and San Hill combined their respective New Jersey and Delaware reports into a social note telephoned in by Sumner. It seems that the Hayward family drove down to Wilmington for a week end at San's home and took in the sights of historic Newcastle. Later, a musical evening featured Margaret Hill, a cornet virtuoso, with Priscilla Hayward at the piano. Not to be outdone by these young ladies, San and Sumner made the welkin ring with their own inimitable renditions of World War I songs, with the former at the Steinway. The strong reception of "K . . . K . . . Katy" reported at distant points indicated the high sound level at the point of origin. When questioned about quality, local neighbors commented that they were glad the storm windows had not yet been removed.

San reports that he was in Cleveland and saw Frank Huggins, who is also with Du Pont. Squeeze has a son, Tom, who was graduated from Dartmouth and married in June. Sumner says he went to a Monte Carlo party given by the Lees, respectively '20 and '21, and won the bubble gum for the highest negative score of \$38,000 in I.O.U.'s.

John J. Healy, Jr., assistant general manager of the Merrimac Division, Monsanto Chemical Company, and a director of the American Institute of Chemical Engineers, is in the news as the author of a number of papers on heavy chemicals and as being responsible for the development of several patented processes for glycerine lyes, the manufacture of pigmented paper and liquid coating compositions.

How to relax: Your psychiatrist will tell you that the easiest way to relax is to expose that inner conflict and settle it. What could be simpler! Just send in your check now to the Alumni Fund. The larger the amount, the better you will feel. Try it. It works.

From St. Louis, Herb DeStaeble writes that his extended trip to the West Coast has delayed completion of the Missouri news network, similar to Larry Conant's arrangement for Washington, but it will be operating at top efficiency by the time of our next

broadcast in these columns in November.

Alumni Council Representative Chick Kurth, of the Boston Edison Company, writes that John E. Buckley, Jr., formerly with the Massachusetts department of public utilities, has joined the Edison organization as a rate engineer. Chick also sent an interesting illustrated article from the Boston Post, which features the appointment of Dick McKay as the head of the new Smaller Business Division of the Massachusetts Development and Industrial Commission. Dick, who has returned to Newton, Mass., from the nation's capital, was formerly management consultant to the board of directors and to the loan bureau of the Smaller War Plants Corporation. In his new association, he will co-operate with other governmental and private organizations in promoting new business enterprises in Massachusetts and also assist existing small companies in overcoming any handicaps under which they may be operating.

Robert J. Lawthers, head of the benefit department of the New England Mutual Life Insurance Company, was elected president of the Boston Life Insurance and Trust Council. Dayton T. Brown, an aeronautical engineer with Grumman Aircraft, has moved his home from Pennsylvania to Manhasset, N.Y. Richard C. Poole makes his home in New Rochelle, N.Y. Morris B. Hart, of the Hart Products Corporation of New York, has a new home address in Elizabeth, N.J., at 850 Magie Avenue. Edward W. Noyes now lives at Silver Birches Farm, Montgomery, Pa. Willard A. Case has moved from Salem, N.J., to Lancaster, Ohio.

Josh Crosby takes up duties on the secretarial committee with a letter telling of his regular meetings with Chick Kurth, Lark Randall, Ace Rood, and Jack Rule at Alumni Council gatherings. Josh is a director of the M.I.T. Club of Wellesley, Mass., where he lives when he isn't hopping around the country in the interest of the Hood Rubber Company of Watertown, Mass.

Through a letter from Walter J. Hamburger, director of the Fabric Research Laboratories, Inc., of Boston, to the Alumni Office, we learn belatedly of a paper on "An Electrolytic Method for Stripping Wool," jointly authored by Dr. George Thomson and E. R. Kaswell '39. The paper was presented before the American Association of Textile Chemists and won first prize in the intersectional contest sponsored by the association.

By this time, you have no doubt received communications from our Class President, Ray St. Laurent, on the state of the Class and from Zam Giddens, reporting on the status of our class gift to the Institute. Don't let these letters go unanswered.

Ray has sent us a feature article from the Hartford Courant Magazine on the John G. Lee family. John is assistant director of research for the United Aircraft Corporation. Mrs. Lee, a daughter of the late Hiram Percy Maxim '86, is active as the president of the League of Women Voters of Connecticut. The oldest son, John, is married and a member of the Class of 1951 at the Institute. Percy is at Oberlin, Nancy at the Putney School, and Hamilton, who is 11 years of age, attends school near the Lee home in Farmington, Conn.

**An unusually fine professional recording of M.I.T. songs is now available at \$2.00 a record, including postage charges within the U.S. — Mail request and check to the "Alumni Association of the M.I.T."**

Our sincerest thanks are extended, on behalf of the Class, to the loyal group of fellows who have assisted so splendidly in providing your Secretary with news for these columns throughout the past season. We salaam to the following: Walt Church, George Chutter, Larry Conant, Josh Crosby, Wint Dean, Herb DeStaeble, Ed Farrand, Zam Giddens, Dan Harvey, Sumner Hayward, San Hill, Irv Jakobson, Dana Kepner, Fred Kowarsky, Chick Kurth, Bill Loesch, Dick McKay, Trev Peirce, Lark Randall, Jack Rule, Ray St. Laurent, Rufe Shaw, Bill Sherry, Whit Spaulding, and Eliot Underhill. The instant response of this group in spending time and effort to collect items for class notes does not eliminate the usual request for your news directly. When you send in the Alumni Fund card, include a choice item or write, telephone, or drop in for a visit when you are in the vicinity of New York. A very pleasant summer to you all. — CAROLE A. CLARKE, Secretary, International Standard Electric Corporation, 67 Broad Street, New York 4, N.Y.

## 1922

The news this month is very sketchy. Warren Ferguson reports that he tried to see Al Browning when he was in Detroit early in May, but that Al's condition at the time was such that the doctor would not permit the visit. Apparently the trip from Miami to Detroit was more strenuous than expected and caused Al a setback. We send Al our continued best wishes for speedy improvement and recovery.

Buck Eacker, newly elected President of the Boston Consolidated Gas Company, had the unpleasant experience of being confronted by a \$4,000,000 fire at the Everett plant on May 15. The press reports that a possible catastrophe of tremendous proportions was narrowly averted by fine work by the firemen. — Further word from Harold Berry tells us that he has assumed the duties of plant manager of the Glenwood Range Company in Taunton, Mass., his work being similar to that which he was doing for many years for the Florence Stove Company in Gardner.

New addresses are as follows: Victor N. Kruse, Carbide and Carbon Chemicals Corporation, Engineering Department, 30 West 42d Street, New York City; Dr. C. Rogers McCullough, 203 Gray Avenue, Webster Groves, Mo.

Edward L. Bowles lectured and conducted a seminar at the Air War College of the Air University at Maxwell Field, Alabama, on last February 25. He was also chairman of a joint meeting of the American Statistical Association and the Institute of Mathematical Statistics on December 29, 1947, in New York City, the subject under consideration being operations analysis. — Sam Reynolds was elected president of the M.I.T. Club of New York at the annual meeting May 5. Bill Bainbridge and Harold J. Paine were elected governors, with terms to expire in 1950 and 1949, respectively. With Sam as president, the New York Club's tradition of having a 1922 man in that office is carried on.

Your Secretary has been considering the listing in the notes, beginning in the fall, of all sons and daughters who may be away

at school an appreciable distance from home. Classmates living in the vicinity of the schools would undoubtedly be glad to know of them. If the Class thinks well of this, your Secretary suggests that you send him a card giving the name of the son or daughter and the school being attended. These reports will then be listed monthly as received.

The assistant secretaries are again reminded to keep their eyes and ears open for 1922 news. All information is welcome.

— C. YARDLEY CHITTICK, Secretary, 77 Franklin Street, Boston 10, Mass. WHITWORTH FERGUSON, Assistant Secretary, 333 Ellicott Street, Buffalo 3, N.Y.

## 1923

Since notes have to be written well in advance of the July Review, we can give you now only a tentative report of the events as scheduled, with a full report on the 25th reunion of the Class following in a later issue.

The Class made its first appearance on Class Day, June 10, with William L. Stewart, Jr., doing the honors as the 25-year speaker. Bill is executive vice-president of the Union Oil Company of California and came on from Los Angeles for the reunion. The President and Secretary of the Class were invited to walk in the academic procession at the graduation exercises on June 11. These two events were curtain raisers, so to speak. Alumni Day was the big show as far as the Class is concerned, since a very large number of men came back for June 12, but not all of them were able to stay over for the reunion events proper. President Bob Shaw sat at the head table at the Alumni dinner and presented the 25-year gift at that time. On Sunday, those participating in the reunion headed for the Griswold Hotel in New London, Conn. We had as guests of the Class at the Griswold, the Alumni Secretary, Charlie Locke '96, and H. E. Lobdell '17, Executive Vice-president of the Alumni Association, and H. S. Ford, Treasurer of the Institute and an honorary member of the Class of '23.

The reunion program committee, members of which were listed in the May notes, had divided its functions. George A. Johnson was general chairman and did a fine job in pulling together various threads necessary for a smooth party. Registration was handled by Dave Skinner, as already reported. We include here a few of the other assignments as a means of giving credit and thanks to individuals for their work on details. O. L. Hooper acted as secretary-treasurer. Prizes were handled by Frank Haven and Walt Marder. President Bob Shaw was to do some work on an exhibit or hobby show. Lawrence Tracy handled transportation; and Joe Fleischer, sports. Penn Howland had the responsibility of making any arrangements necessary for the convenience and entertainment of women guests of the Class, and Bernie Proctor agreed to prepare a summary or history of the 25th reunion events. A number of other assignments may have developed after this writing. John E. Burchard undertook to investigate the possibility of collecting a bookshelf of volumes which have been written by members of the 25-Year Class.

A number of reports on individuals have been accumulating. A press release dated March 10 from the General Electric Company in Schenectady, announces that Richard C. Robin is one of six administrative aides recently appointed to help in G.E.'s nucleonics project, which the company is operating on behalf of the Atomic Energy Commission. This includes the Knolls Atomic Power Laboratory at Schenectady and the Hanford Works in the state of Washington, where plutonium is made.

A clipping from the Springfield, Mass., Republican for March 14, announced a labor-management forum to be held in Springfield, at which Archibald Williams shared the platform with a speaker for the Congress of Industrial Organizations. Archie is industrial relations director of the American Hardware Company of New Britain, Conn. — Alfred M. Perkins was the author of an article in the New Mexico Magazine for November, 1947, on "Exploring the Land of the Craters." — Walter E. Richards, whose home is at Carmel, Calif., informs me that he has been retired as a colonel from the United States Army and will therefore be looking around for something to do. — Robert W. Fox has been living at Newark, Del., where he is finishing the construction of an industrial plant. He writes that he has just taken a new position with the Chrysler Corporation, as construction representative on new plants. He feared that the building of a new plant in Indianapolis at about the time of the reunion might keep him from getting on as planned.

I regret to have to report on the deaths of two members of the Class. One is Lepine H. Rice, who died on April 15 at the age of 78. He was formerly a mathematics instructor at Syracuse University and M.I.T. — Harold I. Beadle died on May 8, 1947, but I did not have word of his death until recently. Surviving him are his wife, two sons, and a daughter, who live at Greenwich, Conn.

On the credit side are a number of births to members of the Class. Joseph S. Sherer, Jr., Vice-president of Reo Motors, Inc., Lansing, Mich., reports the arrival of twins, Myron and Lydia, who were two and one-half months old in April. This brings Joe's total family to six children. Professor Richard H. Frazier of Winchester had a son, Andrew, his second child, born on April 8. — HORATIO L. BOND, Secretary, National Fire Protection Association, 60 Battery-march, Boston 10, Mass. HOWARD F. RUSSELL, Assistant Secretary, Improved Risk Mutuals, 60 John Street, New York 7, N.Y.

## 1924

New honors, promotions, and new business connections provide much news this month.

Charles A. Thomas, Executive Vice-president and technical director of Monsanto Chemical, and also President of the American Chemical Society, has been awarded the 1948 Gold Medal of the American Institute of Chemists. — Edward J. Hanley, Vice-president in charge of finance and Secretary and Treasurer of Allegheny Ludlum Steel, has been elected to the Harvard Business School alumni council. He was



also recently elected national vice-president of the National Association of Cost Accountants.

James E. Jagger, for three years Assistant Secretary of the American Society of Civil Engineers, has been appointed general manager of the International Association of Fire Fighters. Last year he was the representative of the A.S.C.E. at the President's conference on fire prevention in Washington. He had formerly been active for 14 years as a civil engineer in the waterworks field and had served as vice-president and chief engineer of the Alabama Water Service Company in Birmingham.

Elwood M. Proctor has been appointed manager of the Bemis Brothers Bag Company plant in Seattle, after many years in charge of the burlap and open-mesh sales in the St. Louis general sales office. — H. G. Burks, Jr., a director of the Esso Standard Oil Company, has been appointed general manager of the company's manufacturing operations. He had previously been general manager of East Coast refineries.

Arthur J. Kemp recently became vice-president of McCann-Erickson, national advertising agency, where he is account executive of the Columbia Records account. He was formerly sales manager of the Don Lee Broadcasting System, sales promotion manager of Station KNX in California, Pacific Coast sales manager of the Columbia Broadcasting System, and manager of the C.B.S. Detroit office. A resident of Ardsley-on-Hudson, he is married, has two children, and is a sufficiently expert golfer to have a national handicap of six. — Anatole R. Gruehr, division engineer of the Consolidated Edison Company, has completed a successful year as president of the New York county chapter of the Society of Professional Engineers. Serving as vice-president with him was H. Gregory Shea.

"How time flies," says Charlie Locke '96. "Don Kennedy, who is still in Silver Spring, Md., writes that he has a son who is making application to M.I.T. with the possibility of entering in 1949." Also from Charlie comes word that George Holmes has resigned his position as superintendent of the Jayhawk Construction Company on completion of their tunnel and diamond drilling contract at the Yellowtail Dam site, Hardin, Mont.

Gordon Joyce, who only recently became division traffic superintendent of the central division of the New England Telephone and Telegraph Company, was appointed to a similar post in the company's metropolitan division in Boston in April. John B. Gegan, an Army colonel, one of the top administrators in communications in the American Zone in Germany, was joined early in the spring by his family, and at last reports they were stationed in Heidelberg. — Providence papers during the winter carried long reports of the surveys made by A. J. Bone on highway conditions in the city. Since 1945, Bone has been associate professor of highway and airport engineering and as a consultant has made many investigations in various cities.

Thomas P. Coogan, Florida's large-scale builder and President of the M.I.T. Club of South Florida, is again in the news with a new method of house assembly which is

turning out two houses a day in Hialeah, where he is erecting 500 units at Essex Village. Felix Stapleton, according to word received in the Alumni Office, is with War Assets, selling ordnance and chemical facilities now surplus. — FRANCIS A. BARRETT, General Secretary, 234 Washington Street, Providence, R.I. WILLIAM W. QUARLES, Assistant Secretary, McGraw-Hill Publishing Company, 330 West 42d Street, New York 18, N.Y.

## 1925

With the amount of material available for this issue, it will be possible to wind up for the summer in the traditional "blaze of glory." First is a brief note forwarded by the Review staff: "S. J. Cole '26 sends the following note via A. F. Bird '30, Review Secretary of the Washington Society: 'It may interest the former members of the "dug-out" of the early '20's that Ilsley, XII, is in the War Department, Howard Smith, II, is a high-ranking civilian in the Navy after active service in the Marines in World War II (Sixth Division) deserting the infantry of the old First Division.'"

Next comes a voluminous release from the Arnold B. Bailey Corporation, announcing the birth of the company and Arnold's presidency thereof in one breath. It will not be possible to quote fully from it, but here are some significant parts: "Arnold Brown Bailey [XV], formerly of the Bell Telephone Laboratories, has become president of the . . . Bailey Corporation of Scotch Plains, N.J. The new firm will specialize in developing electronic communication equipment . . . Mr. Bailey will also act as consulting engineer on electronics in the marine, aircraft, railroad, and mobile radio fields. Included among his inventions are the basic coaxial antenna now used universally by police radio . . . the high-gain stacked coaxial antenna system . . . He is also coinventor of the omnidirectional airport beacon. [He was] born in Providence, R.I., in 1903 to Richard Arnold and Jane V. (Miskovsky) Bailey . . . moved to Lynn, where his mother now resides. He is the grandson of William Mason Bailey, who assisted Alexander Graham Bell in financing the early telephone system in Rhode Island. His father was an engineer . . . for Corliss . . . and exhibited the Centennial Exposition model in Philadelphia. His brother William . . . is vice-president of Cornell Dubilier. His brother Richard . . . is engineer in charge of the metallurgical analysis laboratory at the General Electric Company, Lynn, Mass. . . . In 1926, he joined the Bell Telephone Laboratories, where he specialized in electric circuit design of radio broadcast equipment . . . In 1927, he assisted Francis M. Ryan in establishing a radio experimental circuit for the Great Northern Railroad across the Great Divide. . . . In 1933, he specialized on vehicular radio as systems design engineer . . . The first Bell System vehicular radio network was designed by his group and covered the New York City area by means of two transmitters on the same nominal frequency but spaced apart to avoid beat note . . . In 1940, he designed the antenna system and supervised radio installation for a three-way Bell System island-to-mainland

circuit . . . between Chrisfield, Tangier Island and Smiths Island in the Chesapeake . . . He was a member of the first Federal Communications Commission diathermy committee, police radio frequency assignment committee, and R.T.P.B. point-to-point radio committee. He is a senior member of the Institute of Radio Engineers and holds a professional engineer's license in New York."

From the Baltimore, Md., *Afro-American*, under a Washington release line, comes the following: "James C. Evans' promotion to Civilian Aide to the Secretary of the Army and confirmation of his appointment as Advisor to the Secretary of National Defense has been announced by the Department of the Army. Evans' duties are to advise the Department of the Army in special problems which may arise regarding colored military personnel and utilizing the services of officers and civilian officials throughout all branches of National Defense. Also, special attention will be given to future programs and policies regarding colored persons in the Armed Forces. Born in Gallatin, Tenn., July 1, 1900, Evans joined the Army in 1918 and served as an instructor in the S.A.T.C. He attended Roger Williams University and received the B.A. degree in 1921; an S.B. degree in electrical engineering, M.I.T., 1925; and an M.S. degree in electrical engineering, M.I.T., in 1926. From 1928 to 1941, Evans held positions at West Virginia State College [including those of administrative assistant to the president, and director of trade and technical education. — H.F.W.J.]. He was granted leave by the school in 1941 to enter government service. Evans is a member of the Institute of Radio Engineers; American Institute of Electrical Engineers, American Association of University Professors, Adelpian (Miami) Club, American Legion, Alpha Phi Alpha, Sigma Pi Phi, and Beta Kappa Chi Fraternities, and is executive secretary of the National Technical Association. He received the Harmon Award in Science, based on technical research in electronics, in 1926, and is listed in 'Leaders in Education,' 'Who's Who in American Education,' and 'Who's Who in the East.' Evans, with his wife, Mrs. Rosaline M. Evans, and their children, James, Jr., and Rosaline live at 3533 Warder St., N.W., Washington."

Another clipping, from the Belmont, Mass., *Herald* for March 26, with the heading "Oliver Resigns as Assistant Manager of Light Department," gives the following story: "Carroll A. Oliver, 47, of 66 Watson Rd., assistant manager and chief engineer of the Belmont Municipal Light Department, has been appointed manager of the City of Taunton Municipal Lighting Plant after a statewide Civil Service examination in which he headed the list for appointment . . . Brought here in 1937 by Edwin P. Taylor, then the plant manager, Oliver reorganized the distribution system and modernized the street lighting . . . He also had charge of remodeling the substation, today one of the most modern plants in New England. The Taunton system which Oliver will head is valued at over \$5,000,000. Oliver's salary . . . will range from \$7,500 to \$10,000 . . . Oliver is a native of

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Rochester, N.Y., married, and the father of two girls. He was graduated from the University of Rochester with a degree of B. S. in Mechanical Engineering in 1922, and in 1924 [He affiliates with '25 however. —H.F.W.] was graduated from M.I.T. with a degree of S.B. in Electrical Engineering. He first started work in 1924 as distribution engineer of the Rochester Gas and Electric Company. From 1925 through 1927, he was employed as an electrical engineer for Stone and Webster. In the latter part of 1927 he became distribution engineer and system planning superintendent for the Blackstone Valley Gas and Electric Company, Woonsocket, R.I. During World War II, Oliver served in the United States Navy with the rank of full commander. He was production control officer of the shipbuilding division in charge of hull and machinery production for the shipbuilding program and acted as liaison officer between 368 construction yards. Commander Oliver represented the Navy in the War Production Board in Washington, on industry advisory committees on the production of electric motors, generators, controls, and combat instruments. Upon his discharge from the Navy he returned to Belmont. He is a member of the American Institute of Electrical Engineers, the Massachusetts Municipal Lighting Association, the Essex County Electrical Association, and the Vermont Electric Association. In addition he is a member of the Belmont Rotary Club, and the Belmont Board of Trade. He is a Mason and a member of the Aleppo Temple of the Shriners."

A notice has been received, on the regular Alumni Office form, of the death of Arthur H. George, V, on November 20, 1944. He is survived by his wife. No other details are available, but they will be published if any Alumnus can send them in.

Your Secretary was one of three members of the Class who attended the M.I.T. Club of St. Louis dinner in honor of Jim Killian '26, Vice-president of M.I.T. The others were Hank Hoar and Zack Zakhartchenko. Jim brought us up-to-date on affairs and plans at Cambridge; his talk was followed by the showing of two films on the atomic bomb.

This concludes our notes for another volume-year. I am looking forward to more letters to combine with the flow of clippings beginning next fall. We'll need them in 1948 and 1949 to build up interest for the BIG reunion in 1950! —HOLLIS F. WARE, General Secretary, Post Office Box 52, Godfrey, Ill. F. LEROY FOSTER, Assistant Secretary, Room 5-105, M.I.T., Cambridge 39, Mass.

## 1926

The Secretary is often queried as to exactly what he means when he invites members to send in notes on their activities. The two interesting letters which follow, one from South Africa and the other from a less civilized spot known as New York City, may serve to show what is meant.

Bill Millar wrote in early May: "If I don't get in our class notes pretty soon, I may be posted as lost on the Dark Continent and Stanley's ghost will come up after me. Actually, I have made my head-

quarters in Johannesburg these past 18 months for the purpose of studying mineral developments in South Africa and upon occasion aiding and abetting same. I expect, however, to be back in the States shortly—the trip now takes 41 hours—and thereafter shall be pursuing minerals as usual in the shadows of the Rockies and Sierras. This is quite a country, and if I had to live anywhere without the United States Sunday papers, I expect South Africa would be first choice. . . . One drawback I might mention (so that the class notes can keep up their reputation of being always informative) is that the famed new gold 'reefs' being developed in the Orange Free State, on which the future of South Africa hinges, do not come up to the ground surface. Instead of just going out on the side of a hill with a pick and wheelbarrow to start a mine, we have frequently to go down thousands of feet even to reach the gold-bearing conglomerates. Too bad we couldn't have been here a billion or two years ago, when the reefs were sticking out all over the place; but it's too late now to think about that. In most of the new mines one shaft will cost \$2,000,000 or more, and by law a mine must have at least two—so forget about that pick and wheelbarrow I mentioned. . . .

"While here, I have managed to see a little of the country and, in fact, got as far north as the Ruwenzori Mountains of western Uganda, where Explorer Attilio Gatti is undoubtedly now suffering great privations in his palatial, air-conditioned trailers. . . . Not far south of the Ruwenzori is Lake Kivu (in the Belgian Congo), close beside which a volcano is now in spectacular eruption. Highway travel is so disrupted by the ever-changing lava streams that a special gang in asbestos suits has to be out at dawn every day posting detour signs. The lava reaches the lake while still almost red hot, and it is awe inspiring to hear the hiss and see the steam columns rising. For the natives living along the lake shore it is a real ichthyological bonanza, and fortunately for them their diet has long been without appreciable variety. For you and me boiled fish morning, noon, and night would grow fearfully monotonous, even though acquiring it was without cost or effort. But so it is in every country—each race has its favored foods, though only rarely of volcanic origin.

"East Africa in general is full of oddities. Take Dr. Williamson's new diamond field in Tanganyika, which may only be described as colossal, so rich are the concentrations of diamonds at and close to the surface. I hear that they run a gambling pool every Saturday morning among the white employees, the betting being based on the exact caratage of diamonds which will be recovered from the crops of the chickens which are about to be cleaned in preparation for Sunday dinner. The Williamson chickens mix utility with beauty and apparently prefer sparkling diamonds to the common run of nondescript stones which they normally acquire for digestive aids. . . .

"I met a young Royal Air Force pilot up on the headwaters of the Buby River in Southern Rhodesia. We were both stuck because the rivers were in flood and not crossable. He told me that he was seeing the

whole world by dint of working hard for a while in one place, traveling along until he went broke, and then repeating the cycle. For amusement at the work spots he collected butterflies and carefully mounted them in strong wooden trays. Then when he set forth on his travels he would carry along the butterflies and present them to some official or organization in the next place where he decided to tarry and work up his finances. In this way he was able to get the good will of local authorities and generally enhance his popularity. He showed me a tray, and indeed it did radiate both beauty and erudition. The double-barreled names of each specimen, with an occasional triple-barrel thrown in for good measure, were particularly staggering, and my compliments were earnestly given as I remembered Index Fossil days at Tech. My young friend reddened: 'Oh, I just make those up as I go along. No one knows the difference, and it gives my butterflies prestige!' So if you chance to buy a book on African butterflies, you may scan its contents with a forewarned eye and be surprised at nothing. What's in a name, anyhow?

"Well, that's my report from Africa for now, but next time I see you, remind me to tell you about the roving leopards of Garumba Tumba, over in the Ibo district of Mozambique, which change their spots. Last seen they were approaching Gingindlovu. Which reminds me that my address is now changing to Silver Bay, N.Y."

Jay Goldberg, research director of J. P. Stevens and Company, Inc., New York City, wrote in mid-May: ". . . Thanks to the rugged training under your editorship of *The Tech* (plus the less serious viewpoint on Voo Doo and Tech Show), I find it easy to write boiler plate and occasionally dish it out. I spoke on textile research at the third national textile seminar at Shawnee-on-Delaware this month and managed to make a few inches in the *New York Times* and *Tribune* and much more in the trade papers. By coincidence my presentation followed that of another Tech man, C. R. McCullough '22, of Monsanto Chemical Company, who spoke on atomic energy.

"I still see W. W. Criswell and should see even more of him now, since he recently left the Rochester and Pittsburgh Coal Company and joined American Wheelabrator and Equipment Corporation to be in charge of New York sales. This company makes dust-collector equipment. . . . I hope to get a chance to see Dave Shepard, if he is still in London, as I am flying to England at the end of the month to attend the International Standardization Organization conference on textiles, representing the National Federation of Textiles and the New York Board of Trade as well as the Textile Research Institute. The meeting is being held in Buxton, not far from Manchester, and I am looking forward to seeing my English friends whom I met at the Textile Institute conferences two years ago. . . .

"I noticed that George Leness was elected president of the Bond Club (I hope I have that right) or something equally impressive in the downtown Wall Street group. I haven't seen Jim Offutt since last fall in Chicago, though I understand he comes to New York quite often. He is still with



United States Gypsum. Cris and I had a brief reunion with Paul Mahoney (at that time with Shoe Covers, Inc.) one day last year, but we haven't seen Paul since that time. . . ."

All those who remember George H. Rockwood, Jr., who became associate professor of electrical engineering at the University of Illinois in 1947, will be shocked to learn that he died on April 23 after an extended illness. He came to the Institute after graduation from Dartmouth in 1924, and received both S.B. and S.M. degrees from M.I.T. Before joining the faculty at Illinois, he spent 17 years with the Bell Telephone Laboratories and is responsible for the development of cold cathode relay tubes. To Mrs. Rockwood, their two daughters, and their son, goes the sympathy of his friends at M.I.T.

William R. Franklin is handling the placement service for the M.I.T. Club of New York. — Oh, yes, they don't always forget to say "hello" when they are visiting Boston. Isaac Gleason, sales manager of the telephone division of Federal Telephone and Radio Corporation, Clifton, N.J., dropped in for a short visit in May. — JAMES R. KILLIAN, JR., General Secretary, Room 3-208, M.I.T., Cambridge 39, Mass.

## 1927

William Hart Nichols was recently elected a director of the Newton-Waltham Bank and Trust Company in Massachusetts. As a result, the Waltham News-Tribune printed the following concerning him: "Mr. Nichols is a member of the American Society of Tool Engineers, the American Society for Metals, a trustee and clerk of the Waltham Savings Bank, trustee and member of the executive committee of the Waltham Hospital, vice-president of the Waltham Chamber of Commerce, chairman of the Manufacturers' Division of the Waltham Chamber of Commerce, clerk of the Waltham Community Fund, member of the executive committee of the Waltham Red Cross. He resides with his family at 19 Pelham Road, Weston."

Some of our mail comes from unexpected places. This interesting letter was written by Milo R. Williams, Captain, U.S.N., from a motor court near San Francisco: "Your information about my move to California was correct for the moment. I had orders to duty on the staff of the Western Sea Frontier, San Francisco. I was detached from my previous duty on April 15 at Camden, N.J., where I was a supervisor of shipbuilding for the Navy and naval inspector of ordnance at the New York Shipbuilding Corporation. My family and I started west by car taking it in leisurely fashion and by as devious routes as possible (driving 5,015 miles to get from Camden to San Francisco) and were still heading for the Bay City until we reached the Grand Canyon. There Washington caught up with me by telephone to inform me that I was to proceed to Pearl Harbor instead. I was to be in Pearl Harbor by May 25 even if I had to fly. From such information as I could get over the wire, it seemed probable that my family would have to follow by transport later. Happily, however, we all did sail in the transport U.S.S. Presi-

dent Hayes on May 20. At any rate, we shall be spared the necessity of house-hunting in San Francisco as quarters await us at Pearl. When our household goods and the rest of our clothes will catch up with us remains to be seen."

More honors have come the way of Sidney Waugh. He has been unanimously elected president of the National Sculpture Society. Waugh also received national recognition recently when he was chosen to design President Truman's wedding gift to Princess Elizabeth, an engraved glass bowl. His work in sculpture is represented in the permanent collection of nine of the outstanding museums in this country and abroad.

Early this year Harold E. Edgerton, professor of Electrical Engineering at the Institute, addressed the Boston section of the Institute of Radio Engineers on "Electrical Flash Sources for Color Photography." The meeting took place in Room 10-250, which many of us in Course XV remember so well. In the August, 1947, issue of the *National Geographic* many of Edgerton's photographs illustrated an article on humming birds. — JOSEPH S. HARRIS, General Secretary, Shell Oil Company, Inc., 50 West 50th Street, New York 20, N.Y.

## 1930

At long last our Class is represented in this column after a prolonged absence occasioned by lack of news. We regret to have to report the passing of two classmates, Keith Hudson in August, 1947, and James Leighton in April of this year. No details are available concerning Keith's death. Jim died after rescuing his son in a canoeing accident. He leaves his wife and five children. We are indebted to Byron MacKusick, Jim's fraternity brother, for this information. Our deepest sympathy is extended to the families of these two members of the Class.

Joe Gentile was appointed assistant mental health commissioner for Massachusetts. He commands an air reserve group of the National Guard in his off hours. Bill Lodge now directs the general engineering department of the Columbia Broadcasting System in New York City. — Tul Houston and Al Luery are both proud fathers. Tul is in industrial real estate in Newark, while Wabash, Ind., is Al's home.

The Class is honored in the election of Jack Latham to the executive committee of the Alumni Association. He is also serving on the Alumni Day banquet committee. George Shrigley was a member of the mid-winter meeting of the Boston alumni (attended by Tom Connor, George, and your Secretary) and has just been appointed to the chairmanship of the assemblies committee of the Alumni Association for the coming year.

Louise Hall is now Professor Hall of Durham, N.C. Jim Dadakis is with the Dollar Radio Company of Mt. Vernon, N.Y. A new member of the department of industrial engineering at Virginia Polytech is Jack Thomas. Making the Army his career, Homer Davis is stationed at Fort Leavenworth as a lieutenant colonel. Jean Kresser is working for Westinghouse in San Francisco.

The 1930 boys do get around — witness, Joe Twinem reported in our last notes to be in Japan, and now John Worcester in Huanuni, Bolivia, and Leo O'Neill in Bonanza, Nicaragua. Harry Shaw is back from Chile and is with Kennecott Copper in New York; and in the same city Otto Zigler is working for the Kellogg Corporation. — On May 18 the yachting symposium of the New England section of the Society of Naval Architects and Marine Engineers featured three experts in the field of yacht design, one of whom was Olin Stephens, Vice-president of Sparkman and Stephens in New York.

Your support of the Alumni Fund needs very little prompting in these columns, but the natural modesty and reticence concerning your various accomplishments are sources of great consternation to the three whose names follow. Enough said, and a pleasant summer to you all! — PARKER H. STARRATT, General Secretary, 1 Bradley Park Drive, Hingham, Mass. Assistant Secretaries: ROBERT M. NELSON, 332 South Michigan Avenue, Chicago, Ill. ROBERT A. POISSON, 105 East 88th Street, New York 28, N.Y.

## 1932

We do not want to lose the impetus our class spirit gained at the 15th reunion a year ago. Don Gilman has appointed the following members to a class gift committee: Louis Vassalotti, chairman, Barney Gould, Bunny Nealand, and Herb Ross. The immediate objective of this group is to recommend what type of gift we should give and by what methods funds should be raised. Your ideas on these topics would be appreciated and should be sent to Louis at 6 Colgate Road, Newton Lower Falls, Mass.

Addison Ellis has given considerable thought to the subject of a class history. The possibilities are many. In the fall we are considering a mailing to obtain an expression of your opinions on several of the objectives which must be settled before going ahead with this project.

Bennett Archambault was married to Margaret Henrietta Morgan on February 19 in New York. Mrs. Archambault attended Flintridge Academy in Pasadena, Santa Monica Junior College, and the University of Southern California. Ben is an executive of the M. W. Kellogg Company, petroleum refinery engineers in New York. — George Baker was married to Edith Segall in New Bedford, Mass. Mrs. Baker attended Wheaton College, was graduated from Barnard College, and received an M.S. degree from the Simmons College school of social work. George is a construction engineer for a naval armory now building in Pittsfield. — Rudolph Tietig, Jr., was married to Mrs. Iva Sanford Hutchison in Chicago, Ill., on March 12. Rudy has lived in Chicago for the past two years and is an engineer with A. J. Boynton and Company.

John A. Fellows has been appointed assistant chief metallurgist of the research center at Mahway, N.J., of the American Brake Shoe Company, resuming his association with the company after service in the atomic energy field and with the Union Carbide and Carbon Corporation. — John L. Person, a colonel, is now at the Army

War College and in August will be United States district engineer at Louisville, Ky. — Arthur Lowery is sales manager of the Worcester division of the Wyman-Gordan Company. He was a member of the Army Air Force Materiel Command in China during the war and later served in an advisory capacity at the White House.

Rolf Eliassen spoke before the Brooklyn Engineers Club this last winter, according to a clipping we received. — Bob McCaa has left the Magnaflux Corporation and settled in Philadelphia. — CLARENCE M. CHASE, JR., General Secretary, 1207 West Seventh Street, Plainfield, N.J. Assistant Secretaries: CARROLL L. WILSON, United States Atomic Energy Commission, Washington 25, D.C.; WILLIAM A. KIRKPATRICK, Allied Paper Mills, Kalamazoo, Mich.

### 1936

Again we have a little news, but far too little. A letter from Johnny Austin, our President, states that he is now one of Henry Luce's boys, having resigned last May from the Flintkote Company. He is now on the advertising staff of the *Architectural Forum*. A more recent communication announces the arrival of Joan Austin (is that southern for John, huh?) on April 30. Johnny says that he sees Hank Cargen regularly and that Hank is sales manager for Sales Affiliates in New York. At the Advertising Club in New York, Johnny ran into Jack Burton, who stated that Hank Lippitt was with the Atomic Energy Commission somewhere in the Empire State Building, where Johnny also maintains his offices. Johnny saw Norm Bull in Chicago and passes on word that Norm is tied up with the plastics end of Kimberly-Clark.

The January issue of the "Bee Hive," a United Aircraft Corporation publication, gives Dorian Shainin quite a spread. One picture shows him playing chess with his wife and young son; and another, lecturing before a blackboard covered with statistics. One article is entitled "You Can Learn a Lot From Playing Cards," and the other, "Quality by Statistics." Apparently Dorian is taking care of quality problems at Hamilton Standard and finding that a set of dice is very handy. An unidentified note states that Charles W. Mueller is chairman of the Princeton section of the Institute of Radio Engineers. A newspaper clipping from the Alumni Office indicates that T. Ledyard Blakeman has been appointed executive director of the Detroit metropolitan area regional planning commission. (Detroit members of the Class please note — streets wherever you want 'em.)

Robert U. King, formerly resident geologist at Climax Molybdenum, has joined the United States Geological Survey as a geologist and makes his headquarters in Denver. Jack I. Hamilton (you guess which one; I know) has moved close to us, having been appointed manager of the Wareham, Mass., plant of Frederick V. Lawrence, Inc. For public consumption the newspaper clipping states, "Our organization is fortunate in acquiring a man with Mr. Hamilton's administrative and technical background." I hope Jack doesn't put propellers or jet propulsion on any of his new construction projects.

A good long letter — and how your scrivener appreciates them — from Gerry McMahon states that he has worked for Continental Oil since graduation (with the exception of four years with Uncle Sam) as a chemical engineer in the lubricating oil and catalytic cracking division of their Ponca City, Okla., refinery. Continental and Cities Service have now formed a subsidiary called the Cit-Con Oil Corporation, which is building a lubricating oil refinery in Lake Charles, La. Gerry has joined the new company as superintendent of the solvent treating area and will have charge of the furfural and duosol units. At the date of his letter he was in New York designing the plant and should now be heading for Lake Charles. He has two sons, a daughter, and is married. Gerry reports that Harry Donaldson is a chemist with Standard Oil of New Jersey in Bayonne and that Ed Everett left the Kellogg construction company to join the Marshall-Moorman Development Company.

This comprises all the news to date, and I hope that some others of you will send me some letters so that 1936 can appear regularly in The Review columns. — WILLIAM W. GARTH, JR., General Secretary, Lithomat Corporation, 58 Charles Street, Cambridge 41, Mass.

### 1937

There isn't much news this time, only enough to put 1937 in The Review. Daniel J. O'Connor, Jr., was elected executive vice-president of the Formica Insulation Company and has been associated with them since 1940.

Leon Strauss, Jr., has constructed a new hearing aid, known as Solo-pak, with a "printed circuit" smaller than a woman's calling card. The single, tiny, "printed" wafer replaces a "mare's-nest" of 173 old-fashioned wires and parts and eliminates 65 hand-soldered connections. During the final months of the war, the proximity fuse, controlled by a small radio device in its nose, increased a thousandfold the accuracy of antiaircraft guns, mortars, artillery pieces. This fuse caused shells to explode with devastating effect at stated distances from a given target. Borrowing the "printed circuit" used in the proximity fuse, second only to the atomic bomb in effect during the war, the young ex-Air Forces captain has constructed a lightweight hearing aid, heralded in scientific circles as a major advancement. The Strausses have been applauded by scientists in Washington for the speedy conversion of a "sword into a plowshare." Mrs. Strauss is very active in the business, too, and, despite having three children, has played a large part in the success of their venture.

David Richardson, a Bausch and Lomb Optical Company scientist, will give a talk before the Society of Applied Spectroscopists on the increasing importance of diffraction gratings for spectrographic analysis as a substitute for prisms of optical quartz, which is virtually unobtainable today.

That being all the news, I'll pack up the typewriter in mothballs for the rest of the summer and hope that there will be so much news by fall that it will be clicking away all the rest of the year. While you're all

on your vacations and have that spare minute you have been waiting for, take up the old pen and send us some news. — WINTHROP A. JOHNS, General Secretary, 34 Mali Drive, North Plainfield, N.J. WALTER T. BLAKE, Assistant Secretary, Research and Products Development, Pillsbury Mills, Inc., Minneapolis 2, Minn.

### 1939

The only news this time concerns Sam Felix — Sam and his wife became the proud parents of their second son, Thomas Smedley Felix, on April 30. Congratulations! We hope to hear from you all — or at least a few — during the summer. — STUART PAIGE, General Secretary, 701 Mill Plain Road, Fairfield, Conn. ROBERT C. CASSELMANN, Assistant Secretary, 271 Cypress Street, Newton Center 59, Mass.

### 1940

News notes are nil, but as this is the last issue of this volume of The Review, I feel the necessity of writing to ask some of you to drop me a note as to what you are doing or going to do in the way of a summer vacation. This would help when the next notes are printed in the fall.

Theodore and Phyllis Edwards have announced the birth of a daughter, Judith Austin Twycross Edwards on April 25. We understand through T. A. Edwards that Jim Ellis was married in March, but we have no further details.

Down here in the Ozarks the fish are biting, and it is time to start the float trips. I'm planning a two-day one before long either down Bryant Creek or White River. I'm sure some of you city fellows will be envious of that trip. I'll write more about it if we have any luck, otherwise there will be no further mention. — H. GARRETT WRIGHT, General Secretary, Garrett Construction Company, Post Office Box 629, Springfield, Mo. THOMAS F. CREAMER, Assistant Secretary, 6 Berkley Road, Scarsdale, N.Y.

### 1941

It looks as if our children might enjoy a higher quality of comic strips because of the efforts of John Ludwig on the printing problem of 'poor register.' An example of this printing fault is when the red coloring which is supposed to appear on the heroine's lips shows up somewhere around her eyebrows. Newsweek, April 26, tells us that Ludwig first ran into the problem in 1946, when The Reynolds Metals Company had been having trouble with color register at its label printing plant. Ludwig was brought in to help and proposed an idea which was a bit too nebulous for the Reynolds Company and his own outfit, Bunnell and Company of Brooklyn, to back up. Ludwig and Burke (an old friend and marketing expert) therefore set up their own shop and made up an experimental model under sponsorship of the new \$70,000 backed Electronic Control Corporation. Reynolds bought the first model after they had watched the machine correct blurred labels in two feet as against 600 feet. The units are priced at \$25,000, and a number of national



magazines and major newspapers are dicker-ing for several dozen. Ludwig and Burke are confident that they have only scratched the surface in application of the device.

Burnham Kelley, assistant director of the Bemis Foundation, spoke on "The Massachusetts State Law on Building Codes" before a recent meeting of the Prefabricated Home Manufacturers Institute in New York. "Tomorrow's Town," a publication of the National Committee on Housing in New York City will carry an article by Burnham Kelly on a like subject.

A couple of our sailing classmates came to semi-grief during a long cruise last fall. According to the Nassau, Long Island, News the going was rough: "Marking an untimely end of a college-days dream to cruise among the Caribbean Islands of the British West Indies, the storm battered ketch, *Fore and Aft*, her sails blown away and her three crewmen exhausted, was to be towed into Saybrook, Conn., by the Coast Guard cutter Yeaton. The 32-foot Bahama-built ketch, owned by Quentin Wald of Freeport, left Saybrook manned by Chester Hasert of Rockville Centre and Paul Carey of Oak Park, Ill. . . ." and that man Wald. Having sighted the ketch, stripped of her sails and towing a sea anchor in heavy seas, the Coast guard dispatched a rescue cutter to pick her up about 75 miles southwest of Nantucket lightship. During the war, Quentin served as research engineer with the Chance-Vought division of the United Aircraft Corporation at Stratford, Conn. He later served for a year and a half on the faculty at Princeton University. Hasert received his M.S. from Cal Tech in 1943. While in the Army during the war, he was attached to the aircraft laboratories at Wright Field, Dayton, Ohio, until he went to Europe in 1945.

Edith Rovner Corliss, who is now at the Bureau of Standards, recently gave a paper on atomic energy before the Parent-Teachers Association at Vienna, Va. Bill Hooper, who is assistant operations manager of Sperry Products, Inc., will speak at the Engineers Club monthly meeting in Hampton Roads, Va. Bill was associated with the copper refining division of the American Smelting and Refining Company as a production engineer. He served in the Signal Corps during the war and joined Sperry in 1946. Bob Edwards, who worked for General Electric while a co-op in VI-A, is now a senior project engineer at the Sperry Gyroscopic Company. Bob lives on Long Island and finds sailing in the Sound a bit safer than Bahama cruises.

On the marital front, Adele Benziger has recently become Mrs. Richard Markey. Theresa Galati is the bride of Frank Filipone. Lois Tomhave is engaged to Herb Moody. Eleanor Dunlap is engaged to Ed Murphy. Sophia Belinkie is now Mrs. Art Weinberger. Priscilla Haas is engaged to Rog Blum; likewise for Ann Hoffman and Ed Miller, and Anne Grant and Austin Fisher. Mary Wiley was married to Jim Sullivan last October. We are late in telling of the wedding of Bonnie Lyman to Bob Edwards; we were glad to hear from Ed. R. S. Badessa is back in Dorchester, Mass. Dan Carroll is listing a Hingham address in lieu of Terminal Island, Calif.

Hwei Lan Chang is located at Ginling College in Nanking, China. Earl Finney is aboard the U.S.S. *Bordelon*, in care of the New York City Post Office. Curte Gerald has left Illinois and is now located in Seattle, Washington. Joe Fletcher is now stationed at Dayton, Ohio. Bob Hancock is stationed at the Naval Ordnance Plant in Center Line, Mich. Harry Heimer has left Dayton for Los Angeles. Herb Hultgren is back east in Hoboken. Arnold Mengel, whom we saw at the Institute last fall, is back in Los Angeles. Another West Coast converttee is Ed Kaiser, now living in Spokane, Wash.

We regret to announce the death of Bob Franz at Webster, N.Y., on February 25. We have also received news of the passing of Joseph Vederman, and of James A. Thompson on March 29. Our sincere sympathies are extended to the families of these men. — STANLEY BACKER, General Secretary, 101 Providence Road, Primos, Pa. JOHAN M. ANDERSEN, Assistant Secretary, Saddle Hill Farm, Hopkinton, Mass.

## 1942

Lou Rosenblum and I are planning to send out a questionnaire to the members of our Class and to publish a tabulation of the results in this column in the fall. We feel that the answers should be of interest both to you and to the Institute and that most of you would like to know in a statistical way what your classmates are doing.

Bob Fay, now graduated from the Franklin Thomas Backus School of Law of Western Reserve University, is the second 1942 man (and the second Bob) to receive a bachelor of laws degree. The other was Bob Rines, as you probably remember. — I have a note from Harvey Kram, who dropped into my office the other day, when, unfortunately, I was absent. He is now with the Leviton Manufacturing Company in Brooklyn as assistant plant superintendent and was here for the day interviewing some '48 graduates for jobs. — We have received word that Maxwell H. Kaplan is doing metallurgical research for North American Aviation in Los Angeles.

Forbes S. Robertson has joined the faculty of the Montana School of Mines, beginning with the new semester, and will teach petrography, economic geology, and related subjects during the school year, with other work for the Montana bureau of mines and geology during the summer months. His work in the field includes exploration in Haiti, the Dominican Republic, and Jamaica for the Reynolds Metals Company. In Haiti and the Dominican Republic he participated in the discovery of bauxite, while doing exploration work. He also conducted field work in Virginia for the Standard Oil Company and in Arkansas for the Carter Oil Company. Before coming to Butte, he was an economic geologist for the Missouri geological survey.

We have received a number of newspaper clippings about various members of the Class. The first one is dated July 10, 1947; so you can see that this column's news sources are really up to date: Lloyd Trefethen, sometime last summer, gave a talk on "The Propulsion of Ships by Atomic Energy" over the British Broadcasting Company network. Lloyd is apparently at the

Engineering Laboratory, Christ College, Cambridge, England, for his master of arts degree and is working on the problem of applying the power released by atomic fission to a ship's engines.

I did not believe the next item myself, but so help me, I have the clipping from which it was taken. John Reeves, who is presently connected with the M. W. Kellogg Company, Jersey City, has been elected to the trustees of the Staten Island Council of Camp Fire Girls, Inc. I don't know whether you gentlemen know much about the Camp Fire Girls, but my clipping states that two members of the Horizon Club girls' group were sent as representatives to the program for the United Nations Appeal for Children of the Economic Council at Lake Success. Such experiences, it was explained, are helpful to the high school girls in broadening their vision in national affairs and are the type of training Camp Fire is able to give its young members.

Paul L. Hotte, who worked at General Electric while in VI-A is now situated in St. Paul with the Engineering Research Associates, Inc. Paul seems very enthusiastic about his job, which is mostly administrative and planning work. The E.R.A. is a relatively new organization that is staffed almost entirely with young engineers and is expanding rapidly. He also says that his work in VI-A was particularly helpful in eliminating that "green sensation" when searching for a lifetime job.

Our most recent vital statistics list as new fathers: Bill Graham, Ed Wise, and Bob Howard; married, Tom Crowley and Wilford Hoover Shaw; engaged, Jack Collins. — JOHN W. SHEETZ, Acting Secretary, Room 3-108, M.I.T., Cambridge 39, Mass.

## 1944 (2-44)

Carl Lindemann wrote me a nice newsy letter about several of the fellows, so I will quote him: "Of the boys who didn't return to school, Al Heckel is now married, living in Massapequa, Long Island, and working for J. P. Stevens in New York City. Bud Brown is now married, has one youngster, a girl, and is living in Columbia, S.C., while attending the University of South Carolina. He mentions an interest in attending the Harvard Business School. Hank Bowes is married and living with wife and youngster in Rochester while working for Stromberg Carlson. Hammarstrom is back at school after a long Army career. I had lunch with Boschen and him at the New York Technology Club a few weeks back. Boschen is married and living in Maplewood, working for the Aviquipo Manufacturing Corporation in New York City. He had talked with Mal McFaul on the telephone a few weeks before, when the latter was in from Hawaii with his wife. I ran into Dick Soderburg on the street in New York a few weeks back. He had left Standard Oil and was going to work for Pratt and Whitney in East Hartford. Woodburn is back at school adding an S.B. in Course XV to the one he has in Course III. I saw him in the city when the boys were on spring vacation. Bud West is back in Worcester, with his wife and youngster, employed at the pill works. I saw Holton Harris when he was in New York for a national convention of

the Institute of Radio Engineers. He hears occasionally from Will Rodeman up at General Electric. I also saw John Gardner, who is with an electrical cable outfit in Connecticut.

"As for myself and those I see regularly at work, I can report the following. After five months with Foote, Cone and Belding, 'hucksters,' I moved over to the National Broadcasting Television just before the American Tobacco left F.C. and B. Because of this remarkable timing I have been attending church regularly of late. At National Broadcasting I am now in the operations section which puts on the actual television shows, and I'm working some gosh-awful hours. Also at N.B.C. Television is Pierre Boucheron in the development group and Bob Barnaby in the audio and video facilities group. I see both of them fairly often and exchange what bits of information we can gather. Boucheron now has two youngsters and is living in Jackson Heights while Barnaby, like myself, is single, although living in New York City and eluding the N.B.C. guidettes. George Schnugg is living at home and working for the United States Rubber Company in their Passaic plant."

Dixie Ward has quit the halls of the Institute and gone back to the hills of North Carolina in an effort to make a living. He is going to organize a shirt manufacturing plant and produce some for the Manhattan Company, with whom he has secured a tie-up. The last time I saw Dixie he was quite enthusiastic about a certain girl he met over Christmas, but I haven't gotten the final report as to whether he married her or not. Sonny and Bobbie Dunlap have a new addition to their family in the form of a little girl named Ann. This is their second. George Burdick is now engaged to Jean Lindsey Cochrane of Marblehead. She is a graduate of Colby Junior College and is attending the Boston University college of liberal arts.

A news letter from Lou Demarkles has some recent information about some of the boys. Bartz, DeAgazio, Kenosian, Teixeira, and Larry White are in the Division of Industrial Cooperation at the Institute. Banus is studying for his Ph.D. in Chemistry, while Brogle is still trying to stretch VI-A until the next G.E. Bill comes along. Ackerman is working in Naval Research in Boston, Chile Chin and Eno are at Langley Field, Va., doing atomic work for the National Advisory Committee for Aeronautics. Clarke is with American Telephone and Telegraph in New York. Corry is engineering Boston Edison's transformer installations. The consulting engineering firm of Lessells and Associates in Boston has Lou Demarkles working for them. Dube is testing transmission lines for New England Power Associates. O'Brien is running an asbestos factory in New Jersey. Parkinson was last heard of as working for the United States Coast and Geodetic Survey making maps.

Jack Reilly is attending a training course on the West Coast leading to work for Henry Kaiser. Turner is teaching at the University of Maine and evidently bent on becoming an electrical engineering prof. Tyberghien was last heard of in Detroit, but what he was doing to survive is un-

known. Veitch is on Long Island designing planes for Grumman. Lew Tyree is slated to get married in Chicago this summer around August 21. As yet, I haven't the information on the girl. Your Secretary and Kirk Drumheller '45 are heading for Alaska to spend the summer in Anchorage, working on a construction gang for Fay, Spofford, and Thorndike, who have the contract there. We are driving up by way of the Alcan Highway and expect to have a grand time camping along the way. — WILLIAM B. SCOTT, General Secretary, Mellon C-41, Harvard Business School, Boston 63, Mass. MALCOLM G. KISPERT, Assistant Secretary, Room 3-243, M.I.T., Cambridge 39, Mass.

### 1945 (6-45)

We were indeed sorrowful to learn of the sudden death of Ralph Rockwood Scherer on May 12, following an operation for acute appendicitis. Since last fall, he and his bride of last June were residents of Williamstown, Mass., where he was a member of the faculty at Williams College, teaching physics and also completing studies required for a master's degree.

Ralph was born in West Roxbury, Mass., on November 26, 1922, and attended Roxbury Latin School before entering Technology. At Tech he was a member of Theta Chi Fraternity, the Navy V-12 Unit, was sports editor of *The Tech*, and a member of the track, squash, and tennis teams. He served also on the freshman council and on the senior week committee. After graduation as an ensign from the U.S.N.R. Midshipmen's School at Columbia, he was assigned to a transport in the South Pacific. Before his marriage to Joan Keir of Framingham, he was a member of the faculty for a year at the Thomas Jefferson school in St. Louis, Mo.

We should like to express our deepest sympathy to his wife, to his parents, Mr. and Mrs. R. Irving Scherer of Portland, Maine, and to his brother Sumner of New Bedford, Mass. — DAVID P. FLOOD, General Secretary, 57 Beech Street, Framingham, Mass. THOMAS A. HEWSON, Assistant Secretary, Hartford Street, Dover, Mass.

### 1947

At this writing, those of us who returned to the Institute for another year of study are heaving a big sigh of relief, as most of us have completed our theses, and with only finals to get by, that long-sought-after master's degree doesn't seem so far off after all. Among those receiving the S.M. on June 11 are Rudy Carl, Jim van Meter, Burt Kahn, Bob Hildebrand, Jack Hill, Homer Eckhardt, Dick Seaman, George McLafferty, Jim Stamper, Luis Cardosa, Dick Scheuing, Oiva Anderson, and your Secretary. Many of the above have been elected to associate memberships in the Society of the Sigma Xi, for which hearty congratulations. Don Kornreich is receiving a second S.B., this time in XV.

The boys in Project Meteor — Dave Knodel, Marv Sweeney, Art Wong, Al Steinmayer, Howie Zwemer, Art Roberts, and Dave Clapp — are preparing to move with the project into the new offices in the

Supersonic Wind Tunnel up past Howard Johnson's on Memorial Drive. Other classmates still have a term or two ahead of them. Bob Michaud will write his thesis during the summer and Marty Schwartz has been accepted as doctoral candidate in Course XVI. Gil Parker, who has been instructing in the Department of Graphics this past year, will also finish in September. He recently gave us word that his fraternity brother Don DeWitt was married to Marion Bloomgarden of Great Neck, N.Y., last March.

Some time ago, I bumped into Mr. and Mrs. Bob Thirkield at Durgin-Park's, and while waiting in the usual long line to be seated, had time for a short chat with Bob. He is still working in Somerville, and seems to like his job quite a bit. Mrs. Thirkield is working in the Placement Office here at Tech. Jerry Hahn was up visiting the old alma mater a short while back, and although I didn't get to see him, I understand that life in the outside world is agreeing with him. Lillian Russell has accepted a position with the University of Illinois as a physical chemist; and Hal Jacobson, whom I saw at the annual Tech Night at the Pops, is still with Raytheon.

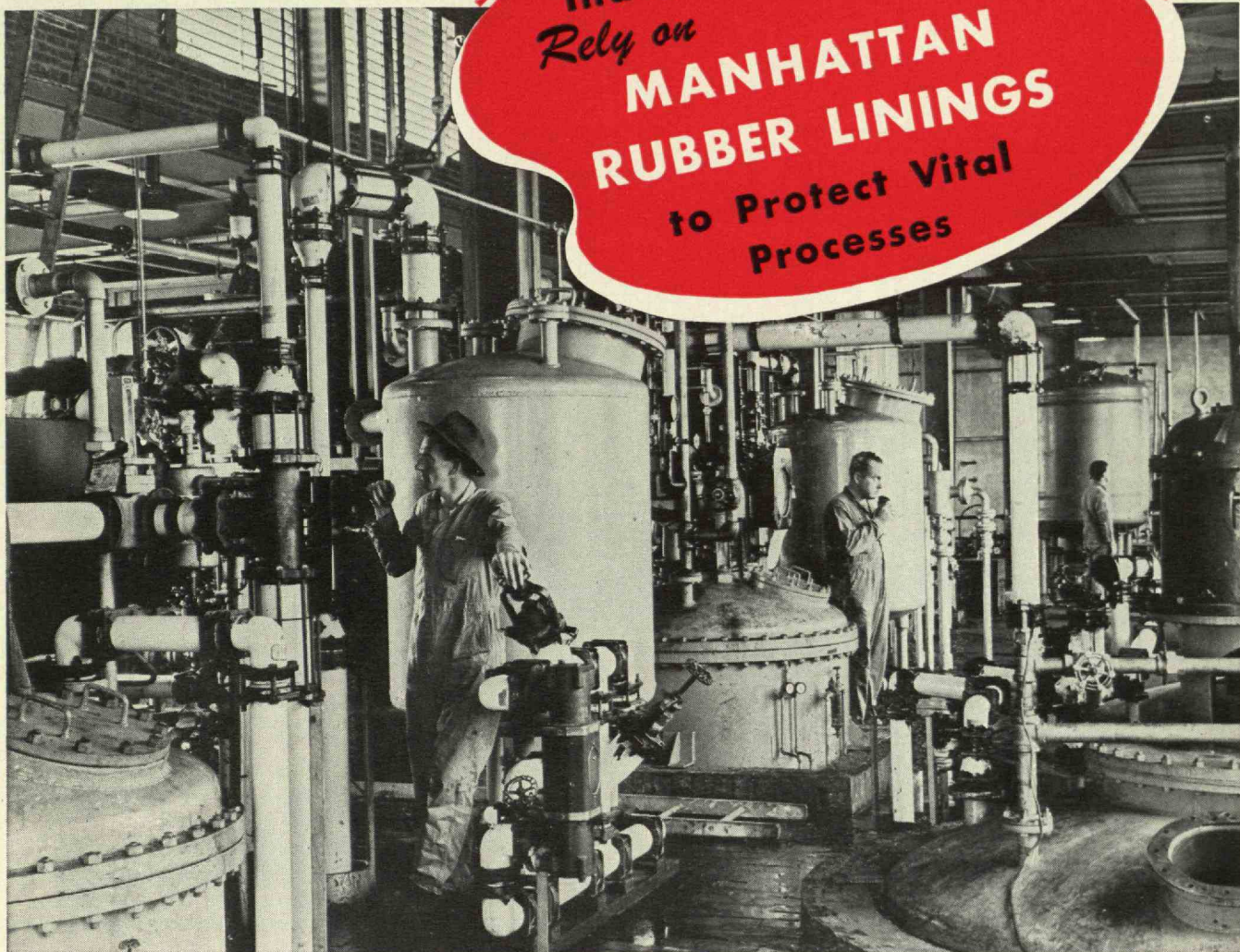
We have the usual number of engagements and marriages to report, and here they are. Byron Lutman, who will receive his S.M. in Electrical Engineering at this graduation, is engaged to Nancy Foster Johnston of Cincinnati. Bill Moore, now with the chemical research and photographic processing division of Eastman Kodak, is planning a June wedding with Dorothy Stokes of Roxbury. Another June date has been set by Al Pastuhov and his affianced, June Adele Staples of New Bedford. Al is with Du Pont and is at present living in Charleston, W.Va. Howie Grant is engaged to Marion Jeannette Beaton of Rosindale; and Dave Lippitt, to Katharine Jones of Pueblo, Colo. Dave St. Clair will marry Alice Wroe Nixon of Rochester, N.Y., in June, and Jay Lathrop will wed Marjorie Cramton of St. Johnsbury, Vt. Jim Justice, who is stationed at the Naval Air Base in Atlantic City, N.J., married Marcia Seton Knight of New London, Conn., last March; and Lloyd Turoff recently wed Thelma Ruderman of Boston. Danny Sobala is already a proud papa.

If I may take the liberty of injecting a personal note, I should like to mention that my immediate plans call for a trip back to South Africa in late July. After what started as a two-year visit and wound up as a nine-year sojourn in this country, I am finally heading home to see if there are any openings for an aeronautical engineer there. As yet, I am undecided whether it will be a permanent stay or just a temporary visit, but if I am not back by next fall, you will undoubtedly have a new secretary to handle this column for you.

In the meantime, I should like to take this opportunity to congratulate Dave Cist and Bill Zimmerman of the Class of 1948 on their elections as Permanent President and Secretary. Also permit me to wish you all the best of luck in your undertakings. — CLAUDE W. BRENNER, General Secretary, M.I.T. Graduate House, Cambridge 39, Mass.



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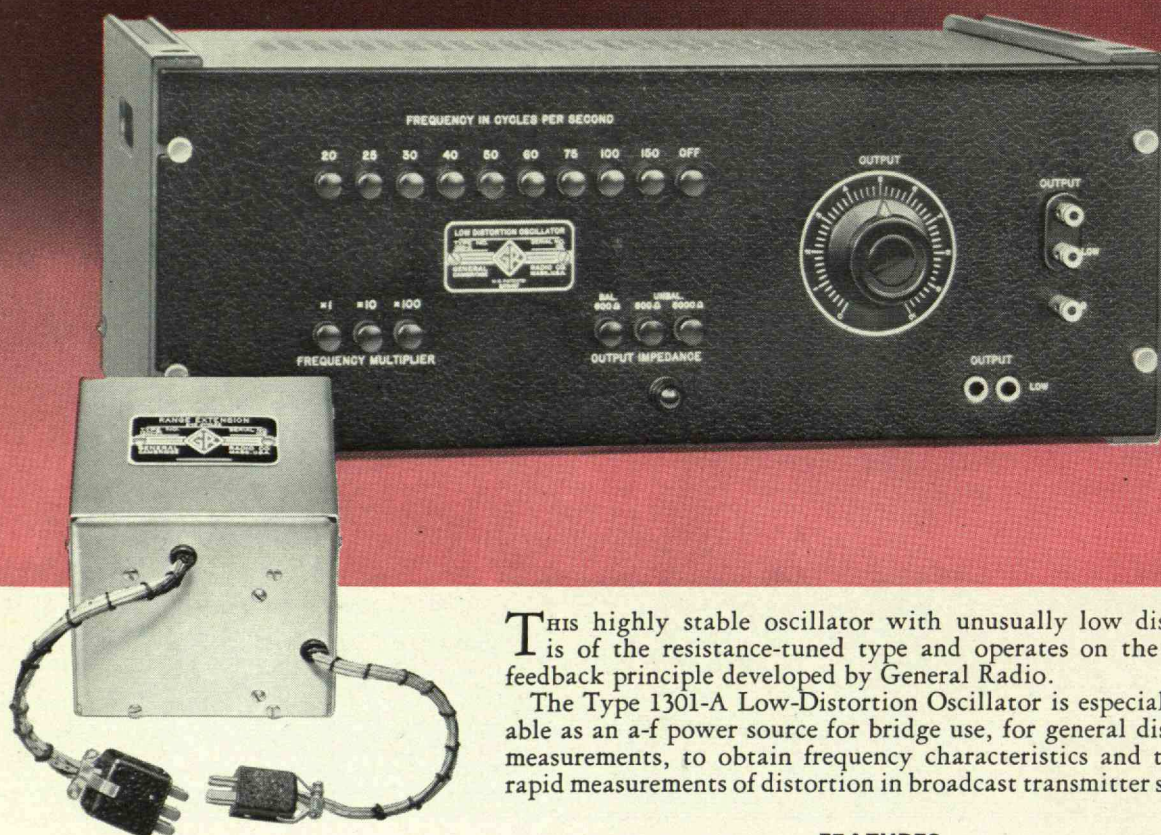
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